DRAFT–October, 1989

MARINA MASTER PLAN 1989

Prepared by Baltimore City Department of Planning
Ernest Freeman, AICP, Director

PROPOSED MARINA MASTER PLAN REVISIONS

CITY OF BALTIMORE

OCTOBER 1989

CHAPTER SUMMARY

EXECUTIVE SUMMARY

CHAPTER I.....BACKGROUND

PURPOSE

NEED FOR A MARINA MASTER PLAN REVISION

- RECREATIONAL/COMMERCIAL NAVIGATIONAL CONFLICTS
- ECONOMIC DEVELOPMENT/TRANSITION
- QUALITY OF LIFE/PUBLIC SAFETY
- RECREATIONAL OPPORTUNITIES
- ENVIRONMENTAL CONSIDERATIONS/CRITICAL AREA MANAGEMENT PROGRAM

TRENDS

- ECONOMICS/PUBLIC FINANCE
- MARINA GROWTH
- BOAT REGISTRATION
- COMMERCIAL SHIPPING ACTIVITY
- TOURISM
- SUMMARY OF TRENDS

CHAPTER II.....GOALS AND OBJECTIVES

CHAPTER III.....PROBLEMS AND OPPORTUNITIES

INNER HARBOR
INNER HARBOR EAST/KEY HIGHWAY
KEY HIGHWAY INDUSTRIAL
FELLS POINT
CANTON
LOCUST POINT
MIDDLE BRANCH
FAIRFIELD
HAWKINS POINT

CHAPTER IV.....RECOMMENDATIONS

GENERAL

- DEFINITIONS
- LOCATION OF MARINAS
- SHIPPING CHANNELS
- VISTA, VIEW AND ACCESS CORRIDORS
- MOORINGS OUTSIDE OF BREAKWATERS/WAVE ATTENUATORS
- MANAGEMENT RECOMMENDATIONS
- PARKING
- ENVIRONMENTAL

SITE SPECIFIC RECOMMENDATIONS

- INNER HARBOR
- INNER HARBOR EAST/KEY HIGHWAY
- KEY HIGHWAY INDUSTRIAL
- FELLS POINT
- CANTON
- LOCUST POINT
- MIDDLE BRANCH
- FAIRFIELD
- HAWKINS POINT

ZONING ORDINANCE RECOMMENDATIONS

NON-CONFORMANCE AND ENFORCEMENT

IMPLEMENTATION

AMENDMENTS

APPENDICES

MARINA MASTER PLAN
PROPOSED REVISIONS

EXECUTIVE SUMMARY

Introduction

The Marina Master Plan revision of 1989 was undertaken at the request of the Planning Commission, as a result of changing conditions in the Harbor. Mayor Schmoke appointed a Technical Advisory Committee to assist the Department of Planning in the revision. The Department, with the Committee's advice, updated the Plan based on current and projected problems and opportunities in the Baltimore Harbor.

Background

Early efforts to revitalize the shoreline included marinas built by the City to encourage private investment. Before adoption of the Marina Master Plan, marinas were allowed by right in industrial zones, and as conditional uses in certain commercial zones.

In 1985, the first Marina Master Plan for Baltimore City was adopted. It accomplished the following:

* Changed the zoning code to make marinas conditional uses in all zones,

* Required new marinas to be in areas designated in the Plan and established other guidelines for their design,

* Required that an Urban Renewal Plan be in effect,

* Required that marinas not conflict with commercial shipping, and

* Resulted in a large number of proposals for new marina development.

Current projections indicate proposals for as many as 6000 boats moored in the City, about 3200 on the Northwest Branch(a little less than the Severn River on a somewhat larger body of water).

Problems the New Plan Must Address

The new plan has been prepared to address the following existing and potential problems:

* Current and future conflicts between commercial and recreational traffic.

* Confusion about what type of marinas are allowed at different locations in the Harbor.
* The visual impact of "boat parking lots."

* The numbers of slips and their relationship to the total boat traffic level

* The impact of marinas on adjacent land uses and prices.

* The proper management of water traffic

General Issues/Recommendations

* The Plan should allow sufficient growth potential, with amendments allowed during the next 5-8 years only for public health or safety.

* Recommendations are to cover recreational boating(not tour boats, taxis, paddle boats, historic vessels and special events). Other than recreational boats should be handled on a case-by-case basis.

* Refine definition of marina
  -private piers and shipyards defined separately from marinas

* Differentiate between types of water dependent uses
  -Recreational Marina
  -Industrial Marina
  -Dry Storage Marina(Boatel)
  -Boat Launches/Tie-ups

* Keep open water channels for shipping and heavy recreational use
  -reducing water coverage allowed in congested areas
  -incorporating set back requirements for marinas into the Plan
  -allowing increased water coverage where open water allows it

* Maintain open water views
  -incorporating established view corridors and vista points into the Plan, where possible.

* Limit moorings outside of breakwater/wave attenuators
  -limiting or restricting areas where this is allowed to low traffic areas removed from shipping lanes and maneuvering areas

* Address management issues
  - promotion of boater education about Baltimore Harbor and potential navigational hazards
  - promotion of the operators licensing concept on a state-wide basis
  - promotion of additional law enforcement capabilities
  - promotion of research on harbor issues

* Parking requirements
  -wet slips increase to 1 space: 2 slips
  -dry slips to stay the same at 1 space: 3 slips
  -allowances for shared parking where appropriate

* Environmental issues
  -incorporation of Critical Area Management Program requirements for pumpouts, aeration, filtering of boat bottom wash waters, and creation of new habitat areas.

Site Specific Issues/Recommendations

The site specific recommendations in the revised Plan are as follows:

* INNER HARBOR
  -reduce total marina area to maximize open water views and maneuvering area
  -retain ability to harbor a variety of vessels
  -reduce anchorage area/provide moorings
  -allow tie-ups at Harborplace, Piers 4, 5, and 6 as controlled by Dockmaster

* INNER HARBOR EAST/KEY HIGHWAY
  -open entry area to Inner Harbor, by removing area at Harborview Lot 1 and holding back Inner Harbor East
  -modify lines to allow for adequate breakwaters
  -allow for boatel at Harborview conditional on appropriate provision for Promenade along shoreline
  -assure adequate riparian access rights at Inner Harbor East

* KEY HIGHWAY INDUSTRIAL
  -allow industrial marina use only
  -prohibit boatels to reduce congestion and stabilize land uses
  -allow private piers for use by owners

* FELLS POINT
  -reduce area to expose pier ends for public access/views
  -setback from channel 200 feet
  -retain view corridors at Broadway Pier, Ann Street, and Thames Street

* CANTON
  -secure open water view at Canton Point(Marino property)
  -allow for expansion of the International Yachting Center keeping 400 feet clear of the turning basin to protect maneuvering of Exxon vessels
  -secure open water view at Canton Waterfront Park

* LOCUST POINT
  -allow for large marina as part of business park at the Port Covington site
  -allow boatel at Port Covington, but reduce total number of slips(wet & dry) to 750
  -protect marina from nearby shipping with rigid breakwater
  -provide markers to direct marina traffic away from main shipping channel
  -determine impact of proposed boatel

* MIDDLE BRANCH
  -dramatically reduce overall area to accommodate habitat creation for Critical Area Management Plan, reduce impact on surrounding communities
  -support rowing activities by limiting growth of marinas

* FAIRFIELD
  -allow for large industrial marina and boatel at the Port Liberty site, with associated job creation
  -assure adequate safeguards for nearby shipping uses.

* HAWKINS POINT
  -remove marina designation around Fort Armistead
  -designate boat launch

Review Process

Listed below is the review process that the revised version of the Marina Master Plan will follow:

-review by the Mayor
-review by the City Council
-review by various Community Group Leaders
-final review by the Technical Advisory Committee
-Public Information Meetings (1st and 6th Districts)
-Planning Commission Action (Public Hearing) on the revision of the Plan
-City Council Action on Zoning Ordinance Amendments as required.

CHAPTER I

BACKGROUND

PURPOSE

The history of marina planning in Baltimore is new but the City's ties to the waterfront date back to it's founding. The purpose of the Marina Master Plan is to provide guidelines for marina development, taking into account the goals of the City's overall Master Plan.

In establishing the necessary guidelines, the Marina Master Plan sets forth a plan for the orderly development of recreational boat uses. This development must exist in harmony with the Port and other water uses, and be accommodated in a way that does not lead to undue congestion.

INTRODUCTION

The City of Baltimore covers an area of approximately 1600 acres of water with 42 miles of shoreline. Approximately 6200 acres, or about twelve per cent (12%) of the City's total area are within 1000 feet of the water (see Figure 1). Of this land, 4500 acres is zoned for industrial use and 1400 acres for residential/commercial. About 300 acres are used for park land and open space.

A 1988 study for the Maryland Port Administration attributed 1986 employment levels of port related activity to 20,000 primary

and 32,000 secondary jobs. The report estimated revenue impact of $1.5 billion and state and local tax impact of $57 million.

NEED OF A MARINA MASTER PLAN REVISION

The Marina Master Plan, originally adopted in 1985, is being revised to address significant changes that have arisen since that time. The Plan was prepared to encourage marina development as an amenity to waterfront redevelopment. The plan was, if anything, too successful. In the last five years, the plan has been amended to accommodate both large and small projects.

Due to the dramatic growth in marinas and these amendments, commercial shipping interests, the Planning Commission, and permitting agencies have asked for a comprehensive revision of the plan to consider the maximum extent of marina growth and the most appropriate location for that growth. Concerns about potential conflicts with commercial shipping, boating congestion and safety are to be addressed.

Based on projections, Baltimore Harbor is proposed to have accommodations for about 6000 boats with about 3200 of these being located in the Northwest Branch (a little less than Annapolis in about the same size body of water). If boats for out of town increase at the same rate as resident boats, this could mean that approximately 340 boats/hour could pass Lazaretto Point during the holiday peak hour and 100 during the average weekend peak hour in the summer based on full buildout. This would triple current recreational boating traffic in the harbor.

Combining currently perceived problems with the potential future problems generated by these projections, the revision was undertaken to address the following issues:

1. Recreational/Commercial Navigational Conflicts,
2. Economic Development/Transition,
3. Quality of Life/Public Safety,
4. Recreational Opportunities, and
5. Environmental Considerations/Critical Area Management Program.

Recreational/Commercial Navigational Conflicts

The most significant and pressing problem the Plan must address is potential commercial and recreational marine traffic conflicts. As successful developments in the City continue to generate additional recreational traffic, the potential for conflict will intensify. Preserving existing and future commercial navigation and the encouraging the growing recreational marine industry are both important to the City. With the limited space available in the channels/tributaries of the harbor and the increasing number of recreational craft, it is necessary to make decisions and provide a system to resolve potential and perceived conflicts between the commercial shipping and recreational activity.

Economic Development/Transition

Starting in 1963 with plans for the Inner Harbor redevelopment, conversion of abandoned waterfront industrial uses in the City of Baltimore was set in motion. The bond issues of 1964 and 1966 started the actual change. The opening of the Maryland Science Center in 1976 and the completion of the World Trade Center in 1977 set the stage for future development. The Inner Harbor Marina opened in 1978 bringing the first new marina activity to the City in many years.

The transition of uses from industrial and shipping to office/retail/recreation that started in the Inner Harbor has been spreading outward in both directions as industrial and port uses on small lots are abandoned. As this change takes place, it must occur in an orderly manner with a minimum of disruption of the City's economic base. The City must provide a certain level of protection and growth potential for commercial shipping and manufacturing while encouraging and controlling redevelopment.

Development of new retail/service establishments in the area brings new jobs. These jobs run the gamut from semi-skilled shop clerks to highly skilled marine mechanics. While these do not adequately replace factory jobs lost, the benefits of increased job availability and tax base are important to the City. The transformation of vacant or underutilized land and shoreline

resources provide not only permanent jobs but also temporary construction related jobs as well.

Planning for these economic development/transitional issues as they relate to the recreational marina industry are part of the need for a revision in the Marina Master Plan.

Quality of Life/Public Safety

It is Baltimore City's responsibility to provide its citizens with a safe and livable environment. As part of this responsibility the City has an interest in seeing that change along the waterfront takes place in an orderly manner. There are also areas along the waterfront where it is in the best interest of the City that change of use not take place at this time, to protect waterfront industry.

Establishment and maintenance of view and public access corridors as well as vista points are also part of the City's efforts to improve and preserve a good quality of life for residents. Historic preservation considerations are part of the selection and conservation of the visual and physical access areas.

Guidelines for location, construction and maintenance of marinas are also necessary. Essential services of police and fire protection must be accommodated without significant impediment. Also, marinas should be built so that they can sustain active use and survive expected wind, wave, and marine traffic impacts.

Recreational Opportunities

Marinas add to the variety of public recreational opportunities for the citizens and visitors of Baltimore. It is necessary to establish some expectations and guidelines for that development, so that the marinas do not inhibit recreational opportunities by consuming too much of the waterfront.

Environmental Considerations/Critical Area Management Program

Water quality in Baltimore Harbor has improved in recent years, however, pollution still prohibits swimming and limits fish and crab production. Since the adoption of the previous Marina Master Plan, all new development must now meet the State mandated requirements under the Critical Area Management Program adopted by the City in January 1988.

The requirements extend not only to water areas but also to the 1,000 foot strip of land extending from the mean high water level inward. The 100 foot buffer along the edge of the water is the most strictly regulated. Future expansions and newly

constructed marinas are subject to the provisions and regulations of the Program. The Master Plan must be revised to reflect his change.

TRENDS

A closer look at Marina Development requires consideration of trends of related activities which affect that development. Quantification of these trends, where possible, is helpful in determining the scope of potential opportunities and problems. Some of the trends that should be considered for the Marina Master Plan revision are marina growth, boat registration, commercial shipping activity in the Port, and tourism in and around the Harbor.

Economics/Public Finance

The nature of public spending and revenue generation has changed during the decade of the 1980's. As part of this change, taxation and tax benefit have become an essential consideration for the City. Generation of tax monies to help defray the cost of services supplied by the City is important in making decisions about marina and other types of development. Currently taxes from marina developments are generated in two primary methods, property and income taxes.

Property tax is the largest single source of revenue contribution to the City from marinas. The individual tax contributions are based on assessed values of land and improvements.

The second method of revenue collection for the City is through income taxes of marina employees who live in the City. Wages for marinas, in general are lower than those for waterfront industrial jobs lost over the past two decades. Therefore, there is a lower revenue generation per job to the City.

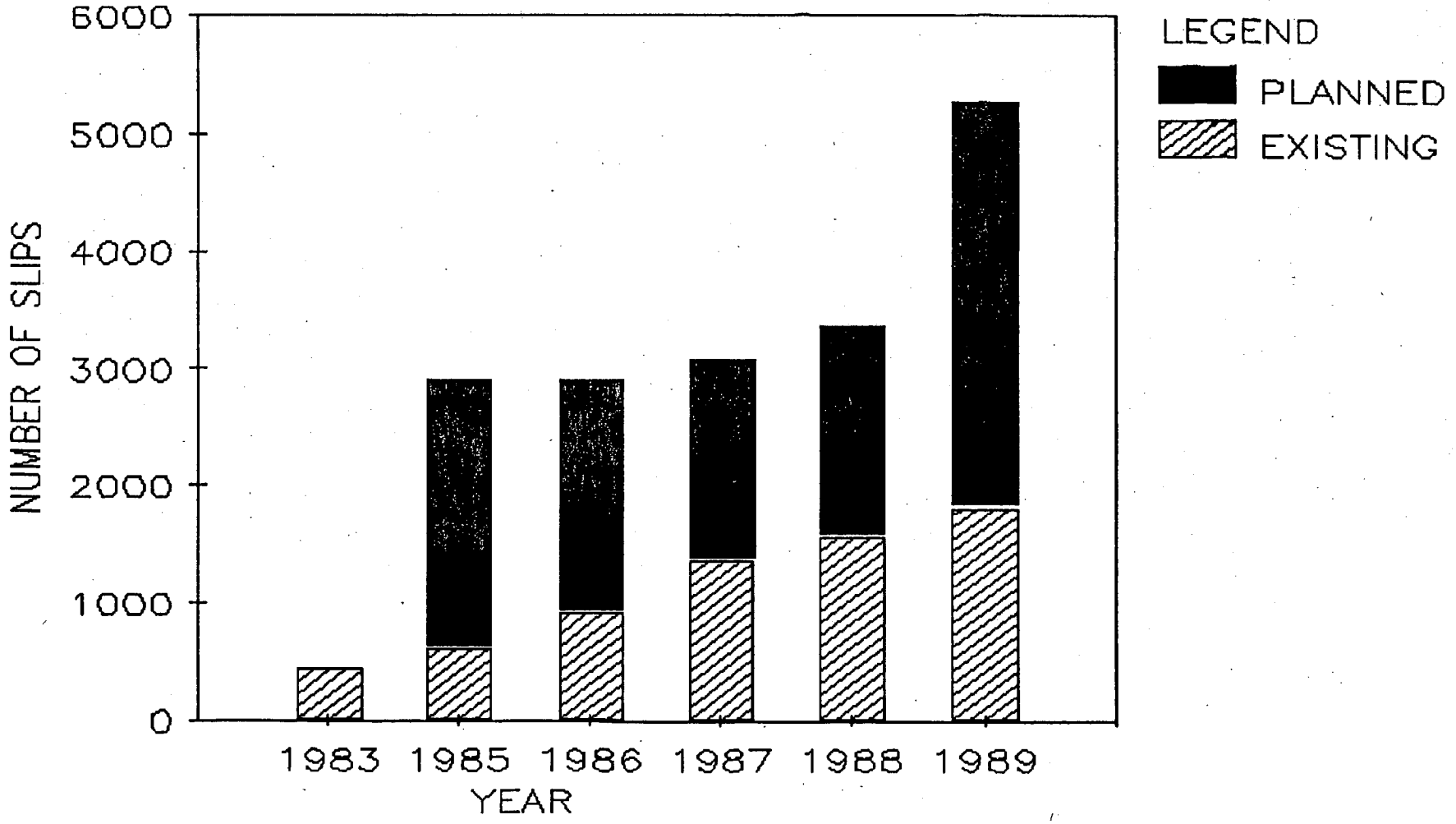
The slip tax is a third traditional method of tax generation related to marinas. This is a per slip tax paid annually to the jurisdiction. Although used in many jurisdictions to pay for services required by marinas, it is not currently used in Baltimore City.

Marina Growth

Comparing the figures on marina slips in the City over the previous six year period reveals a substantial growth rate (see Chart 1). Consideration of the actual numbers of slips involved, shows the actual and potential physical changes involved in the Harbor.

In the four years following the adoption of the first Marina Master Plan, 1985-89, the number of existing slips tripled. Total growth of marina slips went from 632 in 1985 to 1,823 in 1989. Development was heaviest in the Canton and Fells Point areas.

BALTIMORE CITY
MARINA DEVELOPMENT TRENDS
1983-1989



SOURCE: DEPT. OF PLANNING, BALTIMORE CITY, OCTOBER 1989

BALTIMORE CITY
MARINA BUILDING TRENDS

	EXISTING	PLANNED	TOTAL
1983	450	N/A	450
1985	632	2293	2925
1986	922	2003	2925
1987	1376	1709	3085
1988	1580	1794	3374
1989	1823	3467	5290

NORTHWEST BRANCH	3169 (CURRENT BUILDOUT)
SEVERN RIVER	3561 (1988)
GROWTH IN EXISTING (1983-89)	305.1%
GROWTH IN TOTAL (1983-89)	1075.6%

SOURCE: DEPARTMENT OF PLANNING, BALTIMORE CITY, JULY 1989

These figures represent an overall growth rate for the period of 305.1%. Concurrently it represents an average rate of a approximately 51% per year. Although it occupancy varies from marina to marina, the current overall occupancy rate in Baltimore Harbor is 54%.

By 1989, the number of slips existing, permitted and planned in the Northwest Branch (within the City) is about the same as in the Severn River in Annapolis. The numbers being 3,169 and 3,561 respectively (see Table 1). The two bodies of water are about equivalent in overall size. Additionally, there are 2,121 slips existing, permitted and planned in other areas of the Baltimore Harbor (see Figure 2).

Boat Registration

Registration of boats in the Baltimore Metro area can be a good indicator of local marina slip demand. Registration is generally related to yearly slip rentals and does not necessarily reflect transient slip demand. Registration of pleasure boats in the core Baltimore Metro region has increased at a steady rate over the past few years.

In actual figures, total registrations from the core region (Baltimore City, Baltimore County, and Anne Arundel County) has increased from 51,583 in 1985 to 56,872 in 1988. Those figures

represent an increase of 5,289 boats or 10.3% over a three year period (see Chart 2).

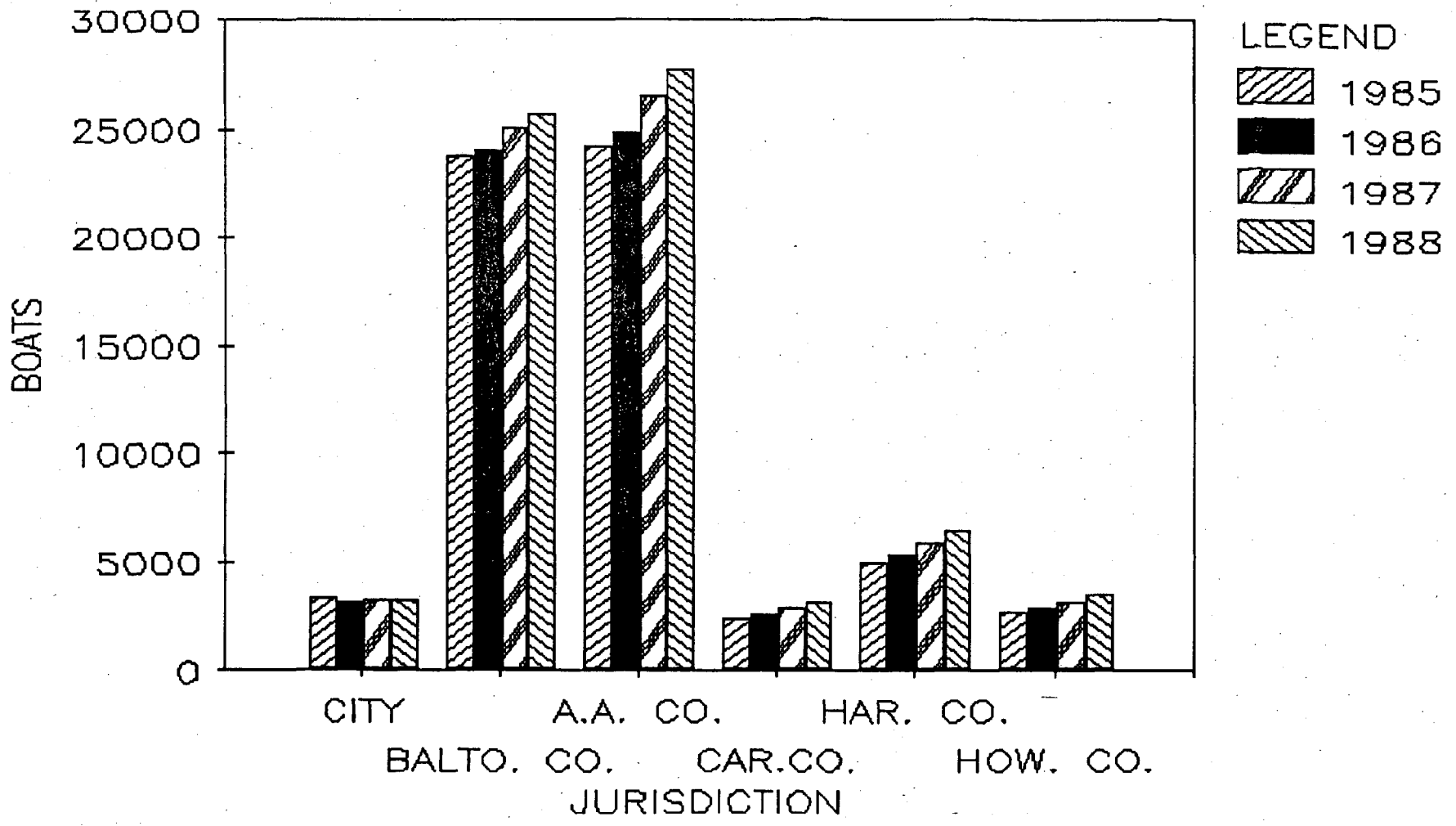
The remaining areas of the Baltimore Metropolitan Statistical Area, Carroll, Harford, and Howard Counties account for an additional 2,950 registrations. With the addition of these areas, the overall growth in registration increased to 13.3% over the same three year period (see appendix 3).

In 1989, Baltimore Metro represented 48.5% of total pleasure boat registrations in Maryland. While this indicates a potential for continuing growth in for the immediate area, the Baltimore market is supplemented by boats from Pennsylvania and Washington, D.C.

Commercial Shipping Activity

A variety of commercial shipping activity takes place in Baltimore Harbor. This activity ranges from large container ships and tankers to small tugs and barges. Although figures for shipping activity are generally reported in tonnage, because of the nature of the Marina Master Plan revision, only the figures showing arrivals, departures and shifts (from piers to anchorages) are relevant to Port traffic (see Figure 3).

RECREATIONAL BOAT REGISTRATION
BALTIMORE REGION
1985-1988



SOURCE: MD. DNR, BOATING ADMINISTRATION, OCTOBER 1989

In figures reported by the Baltimore Maritime Exchange, Inc. current activity of large ships is on the order of six or seven new arrivals each day or about 13 ship movements. Historical figures show a slight decline in the number of these large ships over the past few years but yearly totals are still well in excess of 2,700 arrivals per year.

BALTIMORE PORT ACTIVITY

	Arrivals
1986	2,823
1987	2,761
1988	2,766

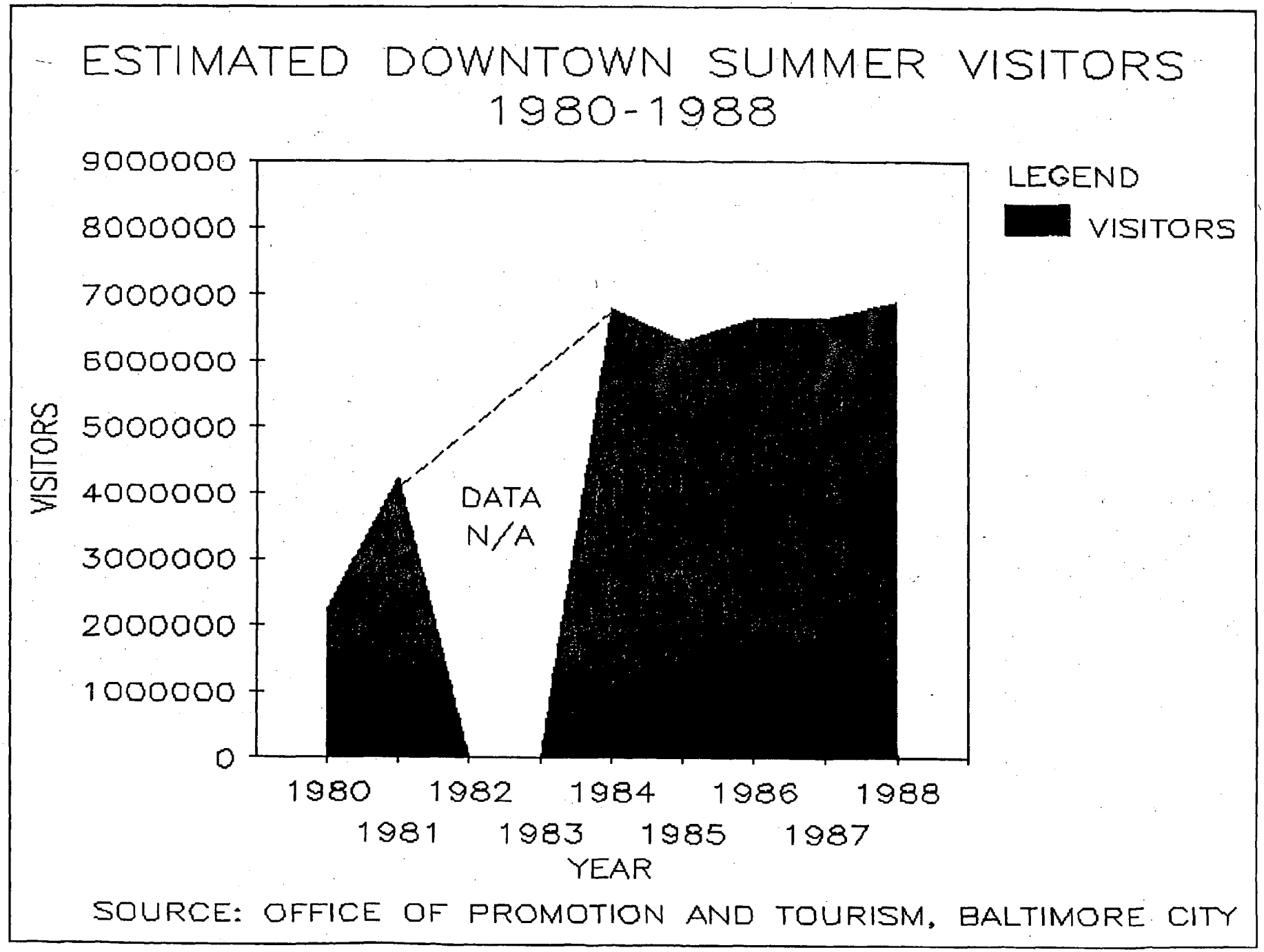
When these figures are doubled to add departures, a picture of large ship traffic in the Harbor emerges. Vessel shiftings, to and from anchorages and piers also add to this daily activity. Additionally, the many tugs, tugs with barges and pilot trips increase total port-related traffic.

Tourism

Tourism trends around the harbor were reviewed for the peak season, June to September. Figures, reported in annual studies for the City of Baltimore's Office of Promotion and Tourism, show that there was a large jump in tourism upon completion of the initial phases of the Inner Harbor Redevelopment. Tourism has increased at a steady rate since that time (see Chart 3).

Recreational boating as a means of transportation to the Inner Harbor and other tourist areas has increased. According to a 1987 survey of overnight visitors to the Downtown/Inner Harbor area conducted for the Office of Promotion and Tourism, 4.3% of all overnight visitors to the Downtown/Inner Harbor reported a boat as their place of stay. By 1988, this figure was down to 1.5%, but considering the volume of overnight visitors in the downtown area, this remains a considerable number.

In the summer of 1980 the estimated visitor volume in the Downtown and Inner Harbor areas was 2.25 million. The figures jumped to 4.25 million by 1981 and 6.8 million by 1984.


ESTIMATED DOWNTOWN SUMMER VISITORS
1980-1988
9000000
8000000
7000000
6000000
5000000
4000000
3000000
2000000
1000000
0
VISITORS
DATA
N/A
LEGEND
VISITORS
1980
1981
1982
1983
1984
1985
1986
1987
1988
YEAR
SOURCE: OFFICE OF PROMOTION AND TOURISM, BALTIMORE CITY

ESTIMATED DOWNTOWN SUMMER VISITOR VOLUME

Summer 1980	2,250,000
1981	4,250,000
1982	NOT AVAILABLE
1983	NOT AVAILABLE
1984	6,800,000
1985	6,300,000
1986	6,650,000 - 7,300,000
1987	6,650,000 - 7,300,000
1988	6,900,000 - 7,200,000

Source: Baltimore Office of Promotion and Tourism

From 1984 to 1988, the level of visitors in the Downtown/Inner Harbor area grew at a slower rate than the preceding few years. As more attractions such as the National Aquarium expansion and the Promenade are completed, the level of visitors is expected to rise.

Summary of Trends

The trends related to marina development in Baltimore Harbor are important in planning for that development. The following findings will have a bearing on the development of marinas in the Harbor:

* Market trends show that private sector marinas continue to be developed based on a demand for their services.

* Boat registrations in the Baltimore Metro area are increasing at a steady rate, and marina growth has slowed in the surrounding counties.

* Commercial shipping in the Port of Baltimore remains at a consistent level.

* Tourism and associated recreational boat traffic generation continues to grow.

CHAPTER II

GOALS AND OBJECTIVES

GOALS AND OBJECTIVES OF THE MARINA MASTER PLAN

Establishment of a goal as the preferred destination and the determination of objectives as the charted course to reach that destination, is key to the success of the Marina Master Plan.

The goal of the Marina Master Plan is to:

* Accommodate growth of the recreational boating industry while protecting the integrity and growth of commercial shipping and industry in the Port of Baltimore.

To reach this goal the following objectives have been determined:

1. Separate commercial and recreational activities in the harbor to the extent necessary

2. Consider the appropriate boat slip capacity of the harbor

3. Prevent boating accidents

4. Safeguard areas of present and future commercial port development

5. Optimize economic benefit of both recreational boating and commercial shipping to the City

6. Minimize the congestion in Baltimore Harbor

7. Preserve water and port access and views

8. Protect the environment from fuel and sewage discharges, as well as other pollutants associated with recreational boating

9. Protect the proper operation and accessibility of storm drains and other utilities

10. Provide for adequate access for police and fire services

11. Assure adequate parking and other landside needs

12. Accommodate repair, service and storage facilities for recreational boats

13. Promote programs that educate recreational boaters about commercial shipping in the Harbor

14. Develop appropriate criteria for location and design of marinas

CHAPTER III

PROBLEMS AND OPPORTUNITIES

EVALUATION OF PROBLEMS AND OPPORTUNITIES

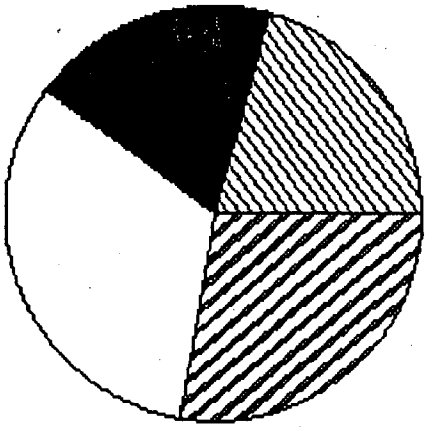
The smooth function of Baltimore Harbor depends on the careful location of marina development. The safe and efficient operation of shipping concerns, the safety of recreational boats in transit, and the safety of boats berthed in marina slips or tie-ups are all affected by the location and extent of marina development.

The change experienced in the harbor is evidenced by the growth in the number of marina slips over the past few years. Starting in 1983, there 450 marina slips in the Baltimore Harbor. This has grown to a total of 1,832 in 1989. Additionally, there are currently 1,147 additional slips permitted and 2,320 more in the planning stages (see Table --).

To understand these issues as they apply to the Harbor, an area-by-area evaluation of existing conditions and problems poses by the existing Marina Master Plan (see Figure 5).

The following areas have been analyzed for potential congestion and other problems by the Department of Planning (see Figure 6):

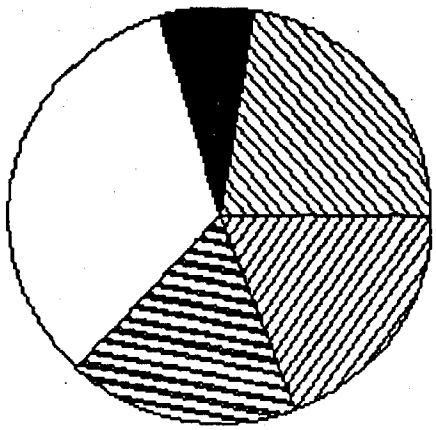
MARINA SLIPS
1989 EXISTING AND PROPOSED
BALTIMORE CITY



EXISTING

LEGEND

- INNER HARBOR/KEY HIGHWAY 20.8%
- FELLS POINT 19.1%
- CANTON 32.4%
- MIDDLE BRANCH/S. LOCUST POINT 27.7%
- FAIRFIELD 0%



PROPOSED

LEGEND

- INNER HARBOR/KEY HIGHWAY 22.4%
- FELLS POINT 7.3%
- CANTON 33.4%
- MIDDLE BRANCH/S. LOCUST POINT 17.9%
- FAIRFIELD 19.1%

SOURCE: DEPT. OF PLANNING, BALTIMORE CITY, 1989

1. Inner Harbor
2. Inner Harbor East/Key Highway
3. Key Highway Industrial
4. Fells Point
5. Canton
6. Locust Point
7. Middle Branch
8. Fairfield
9. Hawkins Point

INNER HARBOR

The Inner Harbor is the focal point of the City's redevelopment and presents a unique set of problems and opportunities. Marine traffic and congestion are a direct result of it's success as a retail and recreation center. In addition to the landside attractions of the Maryland Science Center, the National Aquarium, and Harborplace, the basin itself attracts people as a place to see and be seen. Activity and a variety of vessels on the water, in turn, draws pedestrians to the water's edge, adding to the total vitality of the urban waterfront.

People wishing to visit the Inner Harbor attractions by boat are accommodated in several ways. Informal anchorage is provided

in the area between Constellation Pier and the National Aquarium. For a fee, the Dockmaster provides tie-ups for transient boaters along the bulkheads and finger piers. Approximately 226 berths are available from through the Dockmaster.

The City-owned and privately operated Inner Harbor Marina is on the southern side of the Inner Harbor Basin. Opened in 1978, the marina provides 158 slips with fuel facilities. The operation is being gradually converted to all transient slips as the private sector has built a large number of slips elsewhere for long term lease or purchase.

Since the renaissance of the Inner Harbor, marine traffic in the basin has increased dramatically. In peak times, this traffic may present potential response problems for public safety services. Heavy congestion, such as that experienced on summer and holiday weekends in the Inner Harbor Basin, also increases the likelihood of collisions or accidents. This is compounded by the inexperience of some boaters. Tour boat operators also find navigation in and out of the basin difficult in these peak times.

Compounding the congestion in the basin is the narrowness of the basin's entrance. At its narrowest point, between the end of Pier 4 and the first T-head of the Inner Harbor Marina, the entrance is only 550 feet wide. In the original Marina Master Plan, the area around the Inner Harbor Basin was designated for potential marina development. Further development would cause

serious navigational problems in the basin. In addition to the navigational concerns in the basin, additional marina development would obstruct open water views to and from the shoreline (see Figure 7).

INNER HARBOR EAST/KEY HIGHWAY

Inner Harbor East and Key Highway are considered together because they frame the entry to the Inner Harbor Basin.

Inner Harbor East, though small in geographic size, can and will have a substantial effect on the development in other areas of the waterfront. It is the transitional land and shoreline between two of the most successful redevelopment areas of the City, Inner Harbor and Fells Point.

The area follows the shoreline from the northern side of the Allied Chemical site at the City Pier and proceeds west to the eastern side of the Lower Jones Falls. The predominant existing uses are light industrial, parking, vacant land and abandoned wharfs (see Figure 7).

Long range proposed uses for the area include mixed-use development that would contain office, commercial and residential components. A transient boat marina with 150-200 slips is also proposed as part of the development.

Proposals for a small/medium cruise ship dock along the Allied Chemical site have been discussed. Closer to fruition is a proposed Maritime Academy on the City Pier, with about 95 transient slips. The academy would train people in ship building, repair and marina operations.

Problems in the Inner Harbor East are ones that could arise in the future as development begins to take place. Given the confined configuration of the City Pier and proposed development, it is important that access to the main body of water be preserved for all in the area. It is also important that development in the Inner Harbor East area not impede navigation to and from the Inner Harbor Basin, the center of Baltimore's tourism. Maintenance of a wide channel into and out of the Inner Harbor is vital, and the existing configuration of the Marina Master Plan would allow that to be constricted to as little as 200 feet.

Additional concerns in Inner Harbor East are the preservation of view corridors/vistas and public access to the waterfront.

The Key Highway Urban Renewal Area is located just to the south of the Inner Harbor and across the channel form Inner Harbor East. The major issues in this area relate to the

Harborview development on the site of the old Key Highway Shipyard.

Harborview will be a mixed-use Planned Unit Development with substantial residential (approximately 1500 units) and a 400 slip marina and accompanying boatel (accommodating approximately 240 boats). The project starts at Federal Hill and proceeds south along the east side of Key Highway to the Fire Department repair yard.

The Key Highway area frames the southwest side of the Inner Harbor channel entrance. The preservation of the existing channel between the two is of vital importance to the City. The open water area narrows from 750 feet between the ends of the piers at Key Highway Shipyard and the end of the Allied Chemical site to 550 feet across between the end of Pier 5 and the Rusty Scupper Restaurant (on the eastern end of the Inner Harbor Marina).

Fulfillment of the City's commitment for a harborside public promenade from the Museum of Industry on the western shore just south of the proposed Harborview development around the Inner Harbor to the Canton Waterfront Park on the eastern shore, is also a priority. Accommodation of the promenade in the shoreline development plans along Key Highway and other areas is required for City permitting and approval.

KEY HIGHWAY INDUSTRIAL

The Key Highway Industrial Area starts just south of the Key Highway Shipyards. From there, the shoreline runs south and east to Amstar (see Figure 7). This area presents another unique situation in Baltimore. It is one of two areas officially designated for industrial protection and the only one where marina development of any kind is contemplated. Hence, the preservation of industry within the zone is very important. The maintenance of compatible uses are a primary factor in the determination of allowable marina activity in the area.

There are several marine services within the Key Highway Industrial Area. One Of these is classified as a marina. Tidewater Industrial Marina, is located on Key Highway just south and east of the proposed Harborview project and includes 44 slips directly related to boat repair and manufacturing.

The close proximity to industrial uses such as General Ship Repair and Amstar present potential navigation conflicts between large commercial ships and recreational craft so recreational water activity should be kept to a minimum. There have also been requests for personal yacht and watercraft moorings by industries in the Area.

FELLS POINT

Starting at Chester Street, Fells Point occupies the shoreline west to the Allied Chemical site (see Figure 8). Landside uses in Fells Point are predominately residential and commercial with small industrial areas remaining from the days when this was a vital part of the port, and a thriving industrial area of the old city.

There are currently five marinas in Fells Point with a total of 383 slips. An additional 123 slips are currently permitted and 192 are planned beyond that. This would bring the total to 698. Of the permitted slips, two are new marinas and one is an expansion of an existing facility. Of the planned slips, one is a new marina and one involves a small expansion of an existing marina.

Currently there are limited temporary tie-ups available at the City Recreation Pier from the Dock Master. These are theoretically available to recreational boats, but are predominately used by tugs and barges.

In Fells Point, the issues have been highlighted in a recent study of the area. As a result of the study, the area's Urban Renewal Plan is being amended. The proposed Urban Renewal Plan, is clear in establishing certain guidelines for development. The

preservation of existing and provision of new public access corridors is a very important part of that Plan (see Appendix--).

Safety and navigation issues in Fells Point include navigational access to and from Chester Cove and safe set back distances from the turning basins used by commercial shipping.

Access to Chester Cove is limited due to the construction of marinas on both sides of the inlet. The 300 foot channel was established in the existing Marina Master Plan to serve industrial barges used by Arundel Concrete.This channel should remain open to serve both Arundel and marina traffic. The use of the outside of breakwaters and wave attenuators for tie-ups sometimes narrows the channel. Impediment-free access for essential public safety services must be maintained in this area of the Harbor.

The maintenance of the turning basin between the City Recreation Pier and the Amstar/Procter and Gamble dock facilities is of great importance to the continuing operation of those industrial uses. The issue of safe turning distances from fixed objects and small craft operation continues to a concern of the City and commercial shipping.

CANTON

Starting from the City boundary on the eastern shore of the Patapsco River just south of Colgate Creek, Canton extends north and west to Lazaretto Point. From the point, the shoreline continues around, paralleling Clinton Street and then Boston Street to its intersection with Chester Street (see Figure 9).

The section of Canton south of the intersection of Clinton and Boston Streets accommodates heavy industrial, warehousing, and shipping uses. West of the intersection, Canton is being redeveloped for mixed commercial and residential uses. The Canton Waterfront Park is currently under construction as a landside buffer between the two uses. This will provide a third public boat launch for City residents as well as additional waterfront open space. Included in the park are the relocated facilities of the Baltimore City Police Marine Unit, City fireboats and trash skimmers.

The upper portion of the Canton shoreline has 667 marina slips, provided in six private marinas. The largest of these is Anchorage Marina with 489 slips.

There are an additional 624 permitted slips in the area. The largest portion of these belonging to the Baltimore International Yachting Center with 383. The balance is divided between four other marinas. In the planning stages, but not yet permitted, are

approximately 78 additional slips at the Baltimore International Yachting Center. These are proposed for areas outside of the existing Marina Master Plan line.

Total existing, permitted and planned slips in Canton total 1369, the largest concentration in any area of the city.

The Canton area presents more questions of transitional land and water uses. The key issue in the Canton is the proximity of a recreational marina (International Yachting Center) and an industrial user (Exxon Corp.) in a cove. Issues of access and use of water in relation to the properties is central to the issue. Because of the geographic location of each, their intended water uses overlap. Waterside access to the City's new Canton Waterfront Park is also involved.

Another concern in the Canton area is the preservation of a safe navigable channel between Lazaretto Point and Fort McHenry. Due to the narrowness of the Northwest Branch at this point, it is of vital importance to maintain a safe and open channel.

Views from the Canton area shoreline have been greatly obscured by the large number of slips. Maintaining open water vistas and views from public access points along the Promenade is a major concern in this area.

LOCUST POINT

Locust Point is primarily industrial in character, including a considerable amount of commercial shipping. Exceptions are Fort McHenry National Shrine and a planned Urban Renewal Area, Port Covington.

The area of Locust Point starts just east of the Key Highway Industrial Area at the Amstar sugar refinery. It proceeds south and east along the shoreline to Fort McHenry National Shrine. From Fort McHenry, the area turns west and follows the shoreline to the Hanover Street Bridge (see Figure 10).

Existing marinas on Locust Point include Baltimore Yacht Basin and Ferry Bar Marina. Baltimore Yacht Basin and Ferry Bar Marina are located on the south shore of Locust Point just east of the Hanover Street Bridge. Located adjacent to one another, between the bridge and Ferry Bar Park, they contain 197 and 34 slips respectively.

The redevelopment area, Port Covington, is located east of I-95 and the Hanover Street Bridge. The proposed project starts west of the A.T. & T. dock facility and runs along the shoreline to Locke Insulators. The proposed marina development(currently outside of the Marina Master Plan line) would include approximately 750 marina slips. A boatel of approximately 250 dry stack storage spaces is also proposed.

The major issue in the Locust Point area is the proximity of the proposed CSX development to the A.T.& T. docks and South Locust Point Marine Terminal. Concern from the shipping interests in the area about the exposure of small water craft to propeller wash and wake generated by large ships as well as safety and liability issues regarding the operation of many recreational boats in the close proximity to shipping channels has to be carefully considered. Additionally, the size of marina developments in such a situation has to evaluated in light of the safety issues.

MIDDLE BRANCH

The Middle Branch includes the shoreline of the Middle Branch of the Patapsco River west of the Hanover Street Bridge, as well as the shoreline between the bridge and Harbor Hospital Center (see Figure 11).

The Middle Branch area encompasses various uses from industrial to park/open space. Middle Branch Park is a system of public open spaces along the shore including Broening, Waterview East and West, Reedbird, Westport Young American Ballfield, Swann, Dickman, and Lookout Parks. Within the area, there are two public recreational boating facilities. Broening Park provides two free boat launches. The Water Resources Center/ Rowing

Facility provides opportunities for those interested in crew and sculling and well as water quality and wildlife study.

Middle Branch Moorings, a privately owned marina in the area west of the Water Resources Center, contains 340 slips.

Preservation of the ecologically sensitive area of Middle Branch and the associated activities is important to maintaining the habitat diversity of the City. Also, to provide an area for offsets mandated in the Critical Area Management Program, it is necessary to maintain Middle Branch as an area of low density development.

FAIRFIELD

The Fairfield area includes the shoreline south of Reedbird Park that runs east and south to the Patapsco Wastewater Treatment Plant. From the treatment plant, the shoreline continues around Fishing Point and along the western shore of Curtis Bay to the city boundary at I-695 (see Figure 12).

The area along the Fairfield shoreline is primarily heavy industrial in nature. There is one major planned marina development. On the northern end of the area, Port Liberty, an industrial marina, is proposed outside of the existing Marina Master Plan line. Located just south of Maryland Port

Administration's Masonville Terminal and the Harbor Tunnel tube entrance, the development is proposed to include boat repair facilities, and up to 100 slips for uses related to repair and manufacture. Dry stack storage for up to 800 boats is also proposed.

The location of such a facility in close proximity to industrial uses and commercial shipping again raises issues of safety to both boaters and commercial shipping. The generally open nature of the water body at this location, and the lack of extensive ship maneuvering makes it less of a concern than at Port Covington.

HAWKINS POINT

Hawkins Point begins on the eastern shore of Curtis Creek and the City boundary and proceeds along the shoreline eastward to Fort Armistead Park and the City boundary (see Figure 13). Currently the majority of Hawkins Point shoreline is used for heavy industrial development.

On the south side of the Key Bridge is Fort Armistead Park. Acquired by the City in 1927, the 46 acre park provides recreational opportunities to residents in the southern portions of Baltimore City, Baltimore and Anne Arundel Counties. In

addition to a fishing pier, a free boat launch is available for public use in the park.

There are no existing nor proposed marina developments on Hawkins Point.

CHAPTER IV

RECOMMENDATIONS

RECOMMENDATIONS

The recommendations for the revision of the Marina Master Plan are substantial and wide ranging. They are both general and site specific in nature. They are also broad enough in scope that the revised plan should stand without revision for five to eight years. After the five year period, the Plan will be reviewed and adjustments, if necessary, made by the Planning Commission based on the conditions at that time.

GENERAL

The Plan pertains only to recreational boating. Regulation of tour boats, water taxis, paddle boats, historic vessels and specific events are outside of the scope of this Plan. All of these are special cases and should be considered on an individual basis.

Definitions

Many of the difficulties under the existing plan are the result of all types of boating facilities being considered as one category of use. To rectify this situation, terms should be carefully defined in the Marina Master Plan and in the Baltimore City Zoning Ordinance as required. The difference between shipyards, small private moorings (private piers), and marinas should be recognized (see Appendix 1).

Shipyards should be defined, by their function, as any facility designed and/or used for manufacture, assembly or repair of ships, barges or boats. By doing so, the heavy industrial activities associated with the traditional activities of ship building and repair can be separated out from those activities that generate recreational boating activity on the water.

Private Piers should be defined so as to preserve and accommodate the riparian access rights of property owners. By separating out those functions, that under the previous Master Plan are considered to be marinas, property owners and industrial users are given more leeway in the use of their property. To be consistent with the Army Corps of Engineers permitting system, Private Piers should be defined as facilities with four(4) or fewer slips designed and used exclusively for private non-

commercial purposes by the owner. Private piers will not be regulated by the Marina Master Plan.

The final major use term that needs to be redefined is the general definition of marina. Along with this redefinition of the general term, specific types of marinas should be identified and defined to make the Master Plan effective and understandable.

Marina should be defined as any facility designed to moor, berth, or launch five(5) or more recreational water craft as either principal or accessory use. Shipyards and private piers with docking facilities for four(4) or fewer recreational boats are not marinas, and would not be governed by the Marina Master Plan. The definitions of marina, shipyard and private pier should be amended into the Zoning Code.

Complimenting the new definition of marina, there should be three categories defined based on their functional uses defined in the plan. These are Recreational Marina, Boat Repair Facility (Industrial Marina), and Boatel (Dry Storage Marina).

The most prevalent type of marina related to the Master Plan is the Recreational Marina. It would be defined as any facility that provides for the leasing or selling of five(5) or more in-water moorings or wet slips for recreational boats.

The second type of marina is the Boat Repair Facility or Industrial Marina. Defined by its use, the Boat Repair Facility should be any facility with five(5) or more slips (wet or dry) constructed solely for the manufacture, assembly and/or repair of recreational (less than 120 feet in length) and commercial water craft.

Boatels or Dry Storage Marinas are a relatively new category of marina. The increasing numbers of these facilities make it essential that they be defined by their special function. Boatels would be any facility with waterfront access designed and/or used for the lease or sale of dry storage for more than four(4) recreational water craft, in racks or other storage systems.

A fourth area closely related to but not necessarily part of a marina is the Recreational Boat Launch/Tie-Up. It is important that this use be defined in conjunction with marinas because they generate water activity, however, they do not require extensive amounts of water coverage. Recreational Boat Launch/Tie-Ups should be defined as designated areas that allow for the construction and maintenance of launching, boat-hoist or transient tie-ups along bulkheads for recreational boats. Transient tie-ups are those leased for a period of less than one week at a time.

In addition to the definition of shipyard, private pier and the types of marinas, there are two other terms that should be defined in the Marina Master Plan. The first of these is Recreational Boat Anchorage Area. It should be defined as a designated area that allows for flexible anchorage for recreational boats, out of shipping and recreational channels.

The other term that should be defined is Open Water View Protection. It should be defined as designated areas where tie-ups or moorings for recreational boats are prohibited. Such a designation is necessary to enhance general economic activity and quality of life in neighborhoods surrounding the Harbor. This will help reduce the visual perception of boat parking lots in the harbor.

LOCATION OF MARINAS

The location of marinas is critical to the safe and efficient operation of the Port as well as to their own successful commercial operation. To achieve the goal established earlier, the following recommendations are made regarding the location of marinas which are reflected in the proposed Marina Master Plan Line (see Figures 14 & 15):

1. Marinas shall not extend beyond the Pierhead or combined Pierhead/Bulkhead line or be located closer than 400 feet from maintained primary shipping channels, which ever is the greater distance from the shoreline.

A set back of not less than 125 feet from turning basins or secondary channels shall be maintained, with greater area allowed when necessary for safe maneuvering.

2. The width of access channels shall be no less than 80 feet, having been determined in the following manner;

* Five(5) times the average beam of vessels expected to use the channel or 80 feet, whichever is greater.

3. In coves, inlets, between finger piers and other confined bodies of water, marinas shall not be constructed in such a manner as to impede access to the main body of water by

commercial or recreational boat traffic. Additionally, no pier construction may interfere with water access of adjacent property owners.

4. Marinas and other permanent boating facilities shall not be located in a manner which will impede the free flow of storm drain outfalls, nor shall they be located as to subject the facility to high velocities of water from the outfalls during storm events.

5. In areas designated for Industrial Marinas, only the activities of repair, manufacture, and sales in connection with such repair and manufacture of boats are permitted. Wet slips and dry storage are allowed as necessary for the repair and manufacture process. No sale of lease of marina slips is allowed.

Industrial Marina areas can be so designated when the parcel has industrial zoning, is not in an area facing development pressure to convert from industrial to commercial or other uses and the new designation is compatible with contiguous land uses.

6. In areas designated for Boatels, permitted uses include dry storage and launching of boats.

A. Boatel areas can be so designated when the parcel is zoned M-1, M-2, or M-3(industrial) and the following criteria are met:

1) such designation shall not conflict with the water quality or wildlife habitat objectives of the City's Critical Area Management Program,
2) uses of contiguous parcels shall be stable with no significant air emissions, toxic or corrosive discharge or open storage of bulk materials,
3) use shall not displace a deep water use,
4) use shall not conflict with nearby water-dependent industrial use, and

B. Additionally the following are guidelines for the design of Boatels:

1) the Boatel facilities shall be designed such that the maneuvering of incoming and outgoing recreational boats does not interfere with commercial shipping,
2) adequate channel and fairway size shall be provided to accommodate normal peak boat lift use as well as any other marina activity, if permitted.
3) adequate temporary tie-up space shall be provided to serve the Boatel's capacity during peak recovery periods to prevent interference with the free flow of navigation, and
4) adequate transportation for boats to and from the boatel should be provided based on capacity.

Shipping Channels

The importance of keeping shipping channels clear of obstruction and open for commercial and heavy recreational traffic cannot be over-emphasized. Safety and accommodation of all types of water traffic is essential. Reducing the water coverage allowed in congested areas will keep open areas for the free flow of traffic. This can be done by reducing the Marina Master Plan lines in certain areas and strict enforcement of set backs from shipping channels. Growth can be accommodated by allowing for increased water coverage in areas where open water is sufficient.

Vista, View and Access Corridors

Incorporation of view and access corridors as well as vista points into the Marina Master Plan is important. Those visual and physical access corridors to the Harbor are defined in the Urban Renewal Plans.

The view corridors and vista points should always be kept free of slips and permanent tie-ups. Elevation should be considered as a factor in determining the clear line of vision.

Public access corridors are important as physical points of contact with the Harbor and the Promenade. Most of these corridors should be keep free of slips and tie-ups, but not necessarily all.

Moorings Outside of Breakwaters/Wave Attenuators

Moorings outside of breakwaters and wave attenuators should be restricted in areas where there is heavy congestion or where the facility is located in close proximity to shipping channels. It is necessary that channels not be further restricted by these tie-ups.

It is also important that the purpose of these breakwaters/wave attenuators, that is the protection of recreational water craft from wave and wake damage, not be defeated by their use as additional moorings. In any case there should be no tie-ups outside of the Marina Master Plan line.

Management Recommendations

There are several ways that the water traffic management can be improved beyond the physical location of boating facilities. The first is to improve boater education about the Harbor and

potential navigational hazards. This education should include information about shipping activities, channels, and the dangers of operating around large ships and tugs. Information on pollution, pump-out locations and wetland protection should also be available.

This education can be conducted in several ways. Classes in boating safety offered in the Baltimore area by the Coast Guard, Power Squadrons, and others should be supplemented with specific information on navigation in the Harbor. Those leasing or purchasing slips in the Harbor should all receive literature or instruction through the marinas on this topic. Expanded brochures with detailed maps of depths, navigation hazards, shipping channels, regulations and environmental information should be made readily available to the general public.

The City of Baltimore should continue its support for establishment of state-wide licensing of boat operators. Coordination of legislative efforts with the various groups interested in this subject could be a first big step toward that goal.

The promotion of additional waterside public safety (police and fire) services within the City and around the State if service levels are to remain constant. If the trends continue toward increasing marinas and recreational boaters within the City and the State, essential public safety capabilities must

respond to the demand. With the transient nature of many recreational boaters, the burden of funding this should be multi-jurisdictional or State supported. This includes strict enforcement of the six(6) knot speed limit, and adequate policing of the Canton Waterfront boat launch (see Figure 16).

Information on Harbor related issues is needed in planning for a continued safe and successful operation. Research is needed to take advantage of opportunities and to avert potential problems in the Harbor. This research should include studying the actual effects of ship propwash on recreational boats, appropriate breakwater construction, the impact of Boatels on water traffic, and innovative management techniques. The City should coordinate and encourage efforts of various groups interested in such research.

Parking

Parking for marinas is an important function of the development. Due to the urban nature of the marina development in the City , parking requirements are somewhat different than those in suburban and rural areas. The following chart summarizes the recommendations for the revision of the plan:

PARKING REQUIREMENTS ASSOCIATED WITH MARINAS

USE	RATIO (PARKING SPACES/MARINA SLIPS)
Recreational Marina	1:2
Boat Repair Facility	1:3
Boatel	1:3

Parking requirements for areas designated as recreational boat marinas should be determined by the City government on a case-by-case basis, however no less than one parking space for every two slips should be allowed. Parking provided under this Plan should be located contiguous to the marina or within 300 feet of the same development site so that it functions properly. Additionally, there should be a visual connection between the parking and the marina to reenforce use of the designated parking.

Close in space should be provided for short-term parking and a drop-off area so that boaters can unload their gear. This would provide a convenience to boaters and encourage the use of provided parking. The size of the drop-off should be commensurate

with the size of the marina, and adequately designed and policed to function properly.

In areas designated for industrial marinas, parking should be provided at a rate of one space for every three slips. Industrial Marinas generate fewer automobile trips per slip and thus require a lower parking ratio.

Areas designated for boatels should provide one space for every three dry slips. If additional slips are provided as part of a recreational or industrial marina use, the appropriate parking ratios should be provided, in addition to the dry slip requirement.

Parking lots at marinas are often used for dry storage of boats during the winter months. To prevent the loss of needed parking space during peak demand, parking required as part of a new or expanded marina should not be used for storage of boats, trailers and/or other materials between June 1st and September 1st of any given year. After peak boating season has passed and intensity of facility use diminishes, use of parking spaces for storage of boats, trailers and related materials could be permitted provided that it complies with all other zoning, health and licenses requirements, and does not cause a parking problem for adjacent landowners. In any case, ten(10) percent of the parking requirement, unshared by other uses, must be provided at all times.

In developments where it is appropriate, shared parking should be considered. The use of such facilities optimizes the use of land and reduces the need for waterside paved areas. Shared parking proposals will be evaluated by the Department of Transportation and the Department of Planning. A recommended formula will be included in zoning ordinance changes as part of revised parking standards.

Environmental

The requirements of the Critical Area Management Program are also being incorporated into the Marina Master Plan. These include:

1. New or expanded marinas shall install aeration systems and operate them all year to increase circulation and dissolved oxygen in the immediate vicinity unless the developer can show that this will not result in an improvement in water quality.

2. All new or expanded marinas shall provide sanitary sewage pump-out facilities for slip users (see appendix 2). Marinas having less than 40 slips may make an agreement with an adjacent marina for use of their facilities in lieu of this requirement.

3. All new or expanded marinas providing boat lifting or launching with opportunities for washing or scraping of boat bottoms shall intercept all waters running off such areas and treat them according recommendations made by the Department of Public Works, Office of Water Quality Management.

Site Specific Recommendations

The Marina Master Plan designations for specific sites are depicted on a series of maps that indicate the proposed changes to the current plan. These changes are described below and on the accompanying maps. These maps are the heart of the Marina Master Plan. Maps provided in this document are illustrative in nature, and are not legal maps. Legal maps can be obtained from the Department of Planning at a scale of 1"=40'.

Inner Harbor

Given the current and projected levels of traffic in and around the Inner Harbor basin, the current designation for potential marina development will be removed to preserve the attractiveness of the Inner Harbor to visitors and tourists and therefore the investments of the City and others (see Figure 17). Tie-ups and temporary moorings should continued to be allowed around all of the bulkheads in the Inner Harbor basin at the discretion of the Dockmaster. No additional permanent marina structures should be allowed in the basin.

The Inner Harbor must maintain the flexibility to harbor a variety of vessels. This would include tall ships and visiting military vessels. Congestion in the basin must be limited. The size of the designated anchorage area in front of the World Trade

Center will be reduced. Permanent mooring buoys are recommended for this area to provide better control of the anchorage.

Inner Harbor East/Key Highway

It is essential that the maximum width of the access channel to the Inner Harbor be maintained. To preserve this channel width, it is necessary to remove the area previously designated for marinas, from along the western shoreline in front of the area of the Key Highway Redevelopment Area known as Lot 1 or the Propeller Yard (see Figure 17). The removal of this designation also protects the waterside navigational line of sight, preserving a clear field of vision for safe navigation of recreational craft and ships into and out of the Inner Harbor. Tie-ups to the bulkheads will be allowed as designated by the Dockmaster.

It is also necessary to maintain the clear lines on the eastern shoreline. The line on this side of the channel has been be determined at one end by review of the environmental reclamation plan for the Allied Chemical site. Current plans show an extension of the bulkhead outward from the site. Based on those plans, the Marina Master Plan line on the east side would be drawn from the tip of the Allied bulkhead extending northwest to the end of Pier 5. This delineation preserves the width of the

channel, gradually narrowing from 800 feet to 530 feet in the Inner Harbor.

Adequate breakwaters and wave attenuators must be constructed within the Marina Master Plan lines. Mooring of recreational water craft on the outside of breakwaters in this area will not be permitted. The narrowness of the channel, congestion and wave action are all considerations in this recommendation.

The Harborview development proposed under the Key Highway Urban Renewal Plan contains plans for a boatel. The boatel would be permitted to be constructed provided that the pedestrian Promenade is accommodated through the property for eventual connection to the City's Museum of Industry. The boatel should meet all other requirements set forth in the plan guidelines.

Adequate access must be assured in the Inner Harbor East area. Any development that takes place as part of the proposed marina in conjunction with the Inner Harbor Redevelopment Area should allow for the maintenance of an eighty(80) foot navigation channel between it and the new Allied bulkhead. This will preserve access to the facilities at the City Pier.

Key Highway Industrial

The Key Highway Industrial Area should be preserved as primarily an industrial area. Stabilization of land uses in the zone is of primary consideration. To help accomplish this goal, only industrial marinas will be allowed. Due to the function of industrial marinas, they fit into the industrial character of the area and do not contribute excessive water traffic. This designation would prohibit Boatels or Dry Storage Marinas, as well as recreational marinas (see Figure 17).

Fells Point

Preservation of Fells Point's unique waterfront character is important to the City. Public access corridors to the shore are essential in accomplishing this. A reduction of the Marina Master Plan line in this area will expose the ends of the public access piers and preserve direct access to and views of the water (see Figure 18).

While not all public access corridors outlined in the Urban Renewal Plan will be kept clear of boats, the main view corridors of Caroline Street, Lancaster Street, Broadway Pier, Ann Street and Thames Street (both ends) will be kept open.

Waterside safety in the area is also important. To preserve the integrity of the commercial shipping channel and turning basin off Fells Point the maintenance of a 200 foot setback from the channel is essential. This will specifically help maintain the turning basin for Amstar and other industrial users in the area.

Canton

There are several issues in the Canton area. Key among these is the preservation of public access corridors and vista points. In addition to the others outlined in the Canton Urban Renewal Plan, the open water vista at Canton Point (Marino property) and Canton Waterfront Park should be preserved (see Figure 19).

The other issue in Canton is the expansion of the International Yachting Center. Expansion of the Yachting Center would be allowed in accordance with guidelines established in the Marina Master Plan. This would keep a set back of 400 feet from the turning basin to allow room for the maneuvering of vessels using the Exxon facility and access to the marina slips and public boat launches in the area. Adequate breakwaters should be installed with any addition to protect the small craft in the marina.

South Locust Point

In the Locust Point area, development of a large marina as part of a business park will be allowed at the Port Covington site (see Figure 20). A boatel would be allowed as part of the Port Covington development but should be considered as part of the entire development. Total slips in the development should be limited to a total of 750 (wet and dry).

The developer must construct a rigid breakwater that would protect the marina from nearby commercial shipping allowing entry only from the south, away from the turning basin. Additionally, the development should provide markers to direct the marina traffic away from main shipping channels.

Middle Branch

The use of the Middle Branch for habitat creation mandated in the Critical Area Management Program should be a priority. Preservation of the public investment in the Water Resources and Rowing Center is also important. The Middle Branch is the last protected open water within the city and the only place suitable

for rowing activities. All previous designation, with the exception of existing marinas would be removed (see Figure 21).

Fairfield

The Port Liberty site within Fairfield will be allowed to develop as an industrial marina and boatel (see Figure 22). The character of the proposed development is consistent with the current economic activities in the area. Job creation associated with such a development is important to the area and should be encouraged.

It is further recommended that the design of Port Liberty include adequate safeguards to prevent conflicts with nearby shipping uses.

Hawkins Point

The area on Hawkins Point, around Fort Armistead Park, currently designated for marina development should be deleted. Under the previous Marina Master Plan such designation was necessary for the operation of the boat launch. Under the Revision, the area will be designated as a boat launch, the actual function (see Figure 23).

ZONING ORDINANCE RECOMMENDATIONS

It is recommended that the following changes in the Zoning Ordinance be adopted:

* Definitions of Marina, Recreational Marina, Boat Repair Facility (Industrial Marina), Boatel (Dry Storage Marina), Recreational Boat Launch/Tie-Up, Private Pier and Shipyard be adopted.

* Parking requirements be amended as follows:

Recreational Marina	1 space for every 2 slips
Boat Repair Facility	1 space for every 3 slips
Boatel	1 space for every 3 dry slips.

NON-CONFORMANCE AND ENFORCEMENT

Projects existing or having City building permits prior to the adoption of this Marina Master Plan revision are not covered by the provisions of the revised Plan. New projects or expansions

of existing projects permitted after the adoption of the revisions are subject all provisions of the revised Plan.

Enforcement of the requirements of this Marina Master Plan shall be administered through the Zoning code and related conditional use permits and Planned Unit Developments, as well as cooperatively with state and federal permitting agencies.

Implementation

The Marina Master Plan will be adopted by amendment to the City Master Plan by the Planning Commission after due public review and hearings. Then Zoning Code amendments addressing the definitions and parking requirements will be introduced as a City Council bill which will be considered by the Planning Commission and the City Council.

AMENDMENTS

The Marina Master Plan is a document to be used as guidelines for marina development in the City over the next five to eight years. As a Master Plan for such development it should set the vision for the City regarding that development, and should not be amended on a piecemeal basis. Amendments to the Marina Master Plan within the five to eight year life should be

made only as a last resort and only in the case of an emergency relating to safety or health.

APPENDICES

APPENDIX 1

DEFINITIONS

MARINA - Any facility designed to moor, berth or launch five(5) or more recreational water craft as either principal or accessory use.
Shipyards and private piers with docking capacity for four(4) or fewer recreational boats are not marinas.

1). RECREATIONAL MARINA - Any facility that provides for the leasing or selling of five(5) or more in water moorings or wet slips for recreational boats.

2). BOAT REPAIR FACILITIES(INDUSTRIAL MARINA) - Any facility with five(5) or more slips(wet or dry) constructed solely for the manufacture, assembly and/or repair of recreational(less than 120 feet in length) and commercial water craft.

3). BOATEL(DRY STORAGE MARINA) - Any facility with waterfront access designed and/or used for the dry storage of more than four(4) recreational water craft, in racks or other storage systems.

4). RECREATIONAL BOAT LAUNCH/TIE-UPS - Designated areas that allow the construction and maintenance of launching, boat-hoist or transient tie-ups along bulkheads of recreational boats.

Transient tie-ups are for a period of less than one week at a time.

PRIVATE PIER - Facilities with four(4) or fewer slips designed and used exclusively for private non-commercial purposes by the owner.

SHIPYARD - Any facility or area designed and or used for manufacture, assembly or repair of ships, barges or boats.

RECREATIONAL BOAT ANCHORAGE AREAS - Designated areas that allow for flexible anchorage for recreational boats, out of shipping and recreational channels.

OPEN WATER VIEW PROTECTION -Designated areas where tie-ups or moorings for recreational boats are prohibited.

APPENDIX 2

BALTIMORE MARINAS WITH PUMPOUTS

(EXISTING)

NAME	LOCATION
Anchorage	Canton
Baltimore International Yachting Center	Canton
Swann's Wharf	Fells Point
Chester Cove	Fells Point
Henderson's Wharf	Fells Point
Thames Point	Fells Point
Inner Harbor	Inner Harbor
Baltimore Yacht Basin	Middle Branch
Middle Branch Moorings	Middle Branch

Source: Department of Planning, Baltimore City, October 1989

PLEASURE BOAT REGISTRATION IN MARYLAND 1985-88
(BALTIMORE METRO BY RESIDENCE OF OWNER)

JURISDICTION	1985	1986	1987	1988
BALTIMORE CITY	3,428	3,239	3,349	3,357
BALTIMORE CO	23,881	24,149	25,114	25,750
ANNE ARUNDEL CO.	24,274	24,944	26,583	27,765
SUB-TOTAL	51,583	52,332	55,046	56,872
CARROLL CO	2,476	2,692	2,952	3,206
HARFORD CO	5,083	5,402	5,997	6,513
HOWARD CO.	2,811	2,935	3,286	3,601
SUB-TOTAL	10,370	11,029	12,235	13,320
BALTIMORE METRO TOTAL	61,953	63,361	67,281	70,192
STATE TOTAL	125,239	129,185	137,481	144,619
BALTIMORE METRO % OF MARYLAND	49.5%	49.0%	48.9%	48.5%
METRO ANNUAL GROWTH	N/A	2.3%	6.2%	4.3%
STATE ANNUAL GROWTH	N/A	3.2%	6.4%	5.2%

SOURCE: MD. DEPT. OF NATURAL RESOURCES, BOATING ADMINISTRATION

TABLE _____ BALTIMORE CITY

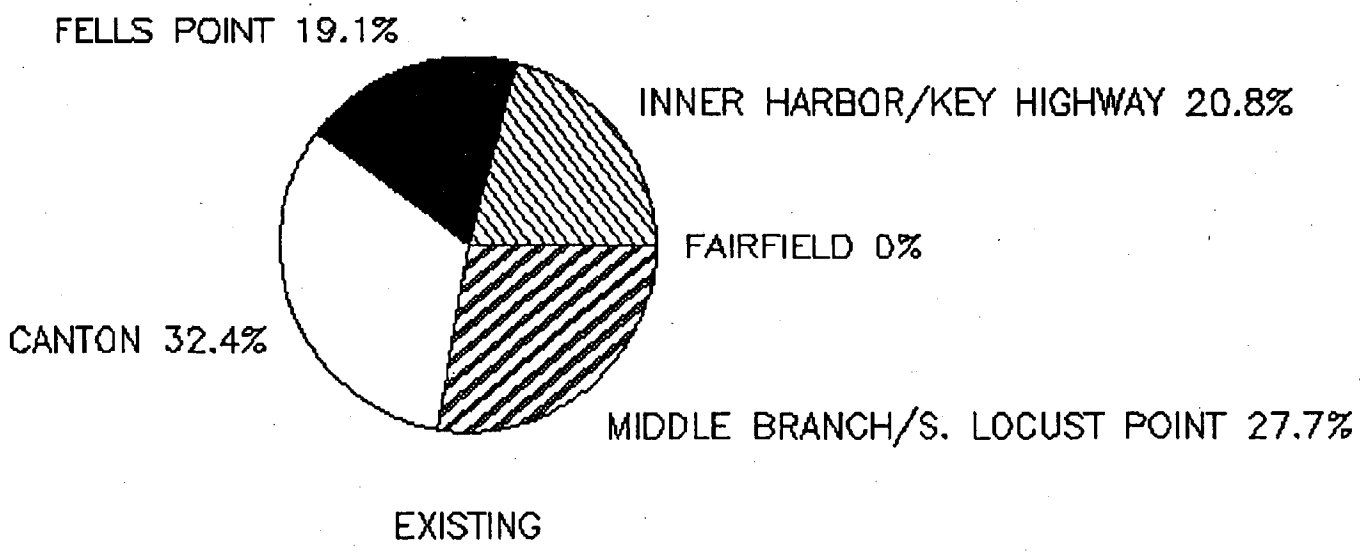
EXISTING AND PROPOSED MARINA SLIPS 1989 AND BEYOND

	Sector/Marina	Existing October 1989	Additional Permitted	In Planning	Total
	INNER HARBOR/KEY HIGHWAY				
A	Inner Harbor*	384	-	-	384
B	Harborview	-	400	240	640
C	Tidewater (Key Highway Industrial)	44	-	-	44
D	Inner Harbor East & Maritime Academy	-	-	300	300
	Sub-Total	428	400	540	1,368
	FELLS POINT				
E	Constellation	-	-	150	150
F	Brown's Wharf	10	22	-	32
G	Harbor's Edge	6	-	-	6
H	Belts Wharf Landing	-	65	-	65
I	Henderson's Wharf	258	-	42	300
J	Swann's Wharf	26	26	-	52
K	Thames Point	53	-	-	53
L	Chester Cove	40	-	-	40
	Sub-Total	393	113	192	698
	CANTON				
M	Bayview	25	27	-	52
N	Anchorage at North Shore	-	58	-	58
O	Scarfield	-	69	-	69
P	Anchorage	489	87	-	576
Q	Shipyard	20	-	-	20
R	Baltimore International Yatching	83	383	78	544
S	Tindeco Wharf	20	-	-	20
T	Canton Cove	30	-	-	30
	Sub-Total	667	624	78	1,369
	MIDDLE BRANCH/SOUTH LOCUST POINT				
U	Port Covington	-	-	750	750
V	Ferry Bar	34	-	-	34
W	Baltimore Yacht Basin	197	-	-	197
X	Middle Branch Moorings	340	-	-	340
	Sub-Total	571	-	750	1,321
	FAIRFIELD				
Y	Port Liberty	-	-	800	800
	Sub-Total	-	-	800	800
	GRAND TOTAL	1,833	1,137	2,360	5,556

Prepared by - Department of Planning, Baltimore City, October, 1989

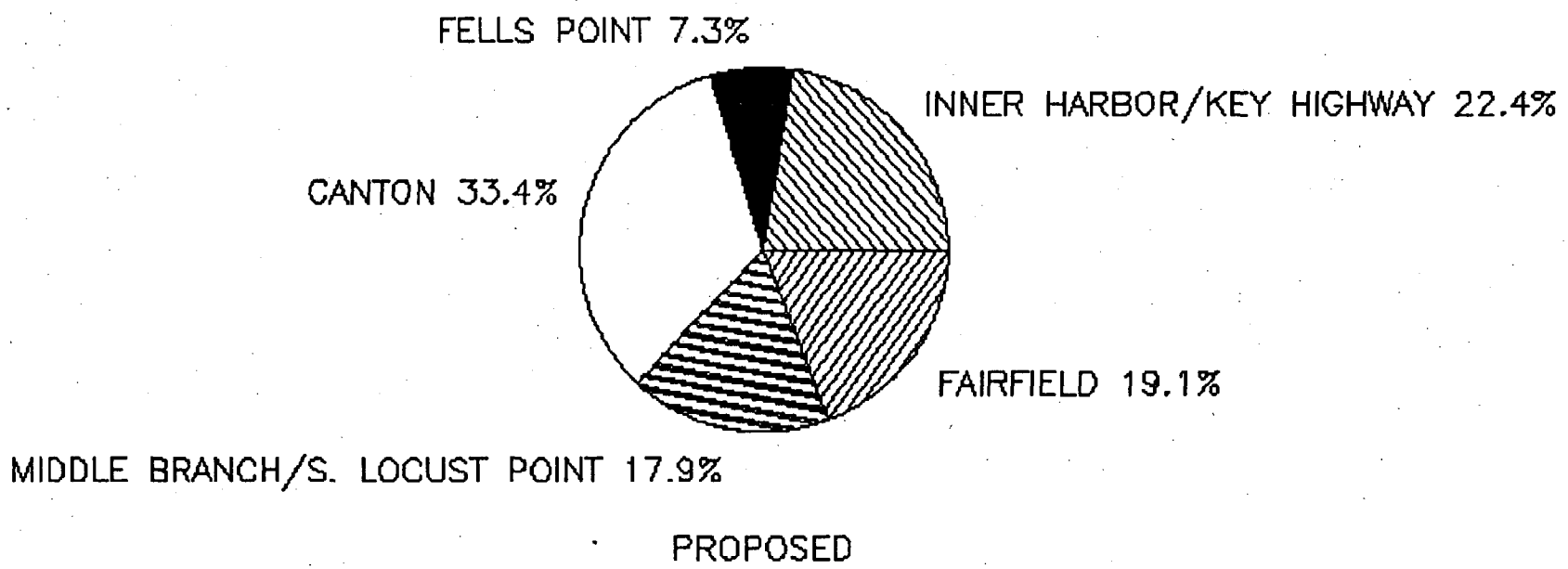
NOTE: Includes 226 berths for transient boaters at Municipal Wharf and Finger Piers.

MARINA SLIPS
1989 EXISTING
BALTIMORE CITY



SOURCE: DEPT. OF PLANNING, BALTIMORE CITY, 1989

MARINA SLIPS
1989 PROPOSED
BALTIMORE CITY



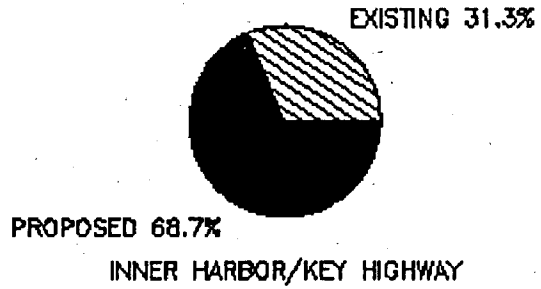
SOURCE: DEPT. OF PLANNING, BALTIMORE CITY, 1989

BOAT TRIP PROJECTIONS(PEAK HOUR)-NORTHWEST BRANCH

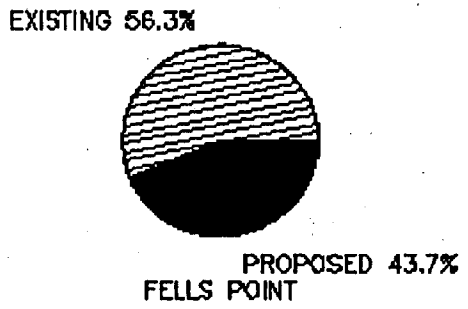
	MARINA	NON-MARINA	TOTAL
1989 HOLIDAY WEEKEND	70	120	190
1989 TYPICAL WEEKEND	50	50	100
HOLIDAY WEEKEND @ BUILDOUT	240	410	650
TYPICAL WEEKEND @ BUILDOUT	170	170	340
HOLIDAY % INCREASE OVER TYPICAL WEEKEND (1989)	40%	140%	90%
% INCREASE 1989 TO TYPICAL WEEKEND @ BUILDOUT	240%	240%	240%

SOURCE: BALTIMORE CITY PLANNING DEPT., SEPT. 1989

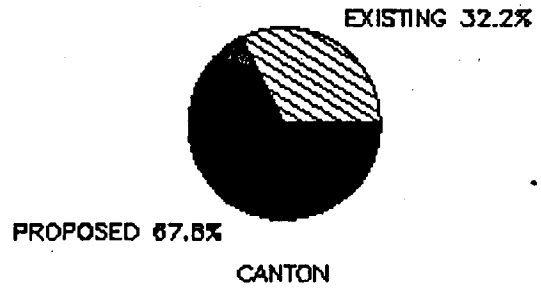
MARINA SLIPS
BUILDOUT BY AREA
BALTIMORE CITY



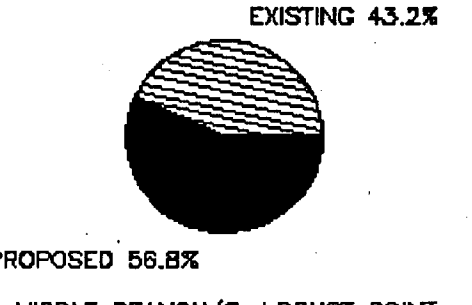
INNER HARBOR/KEY HIGHWAY



FELLS POINT

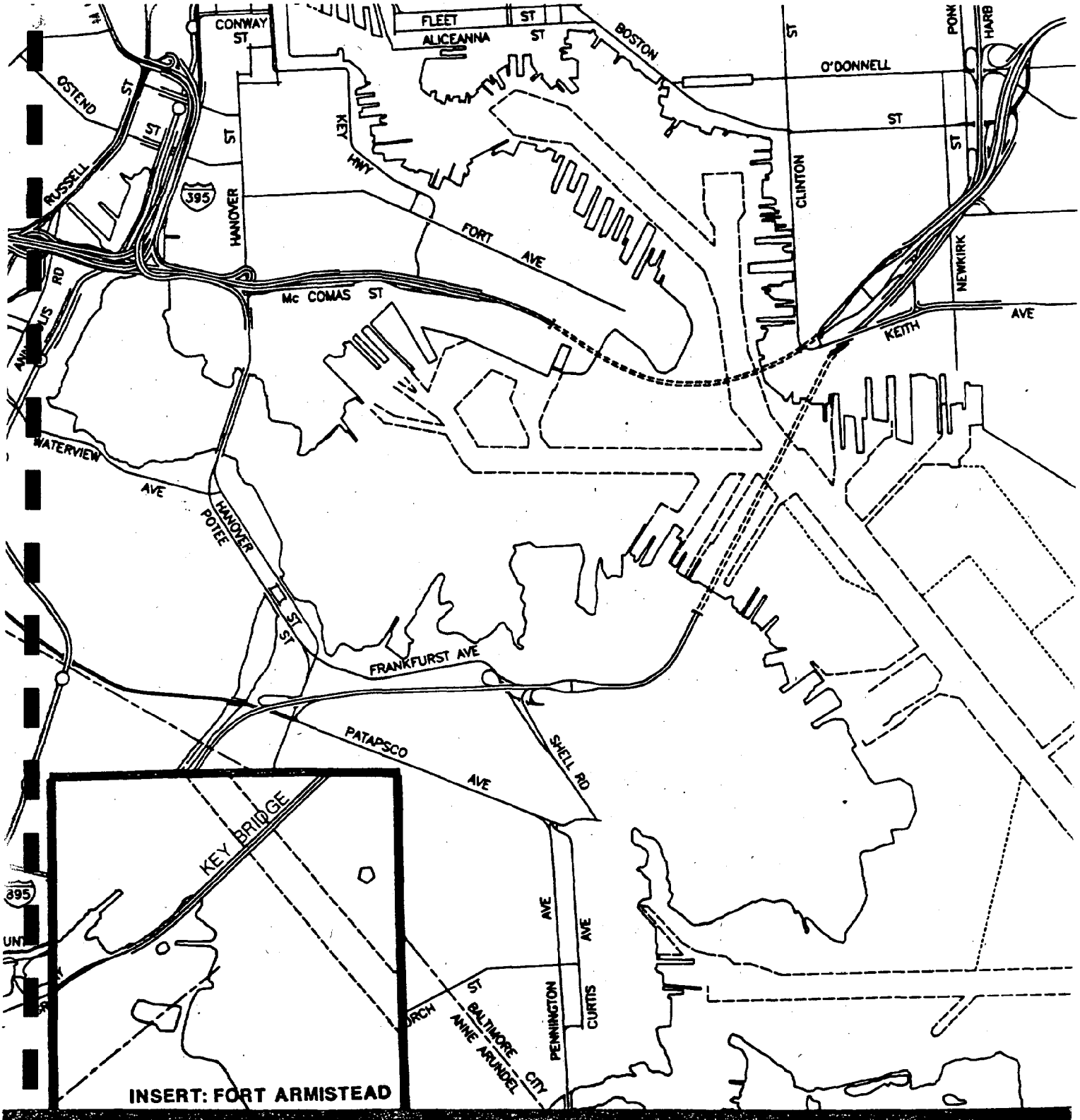


CANTON



MIDDLE BRANCH/S. LOCUST POINT

SOURCE: DEPT. OF PLANNING, BALTIMORE CITY, 1989



MARINA MASTER PLAN

BALTIMORE HARBOR

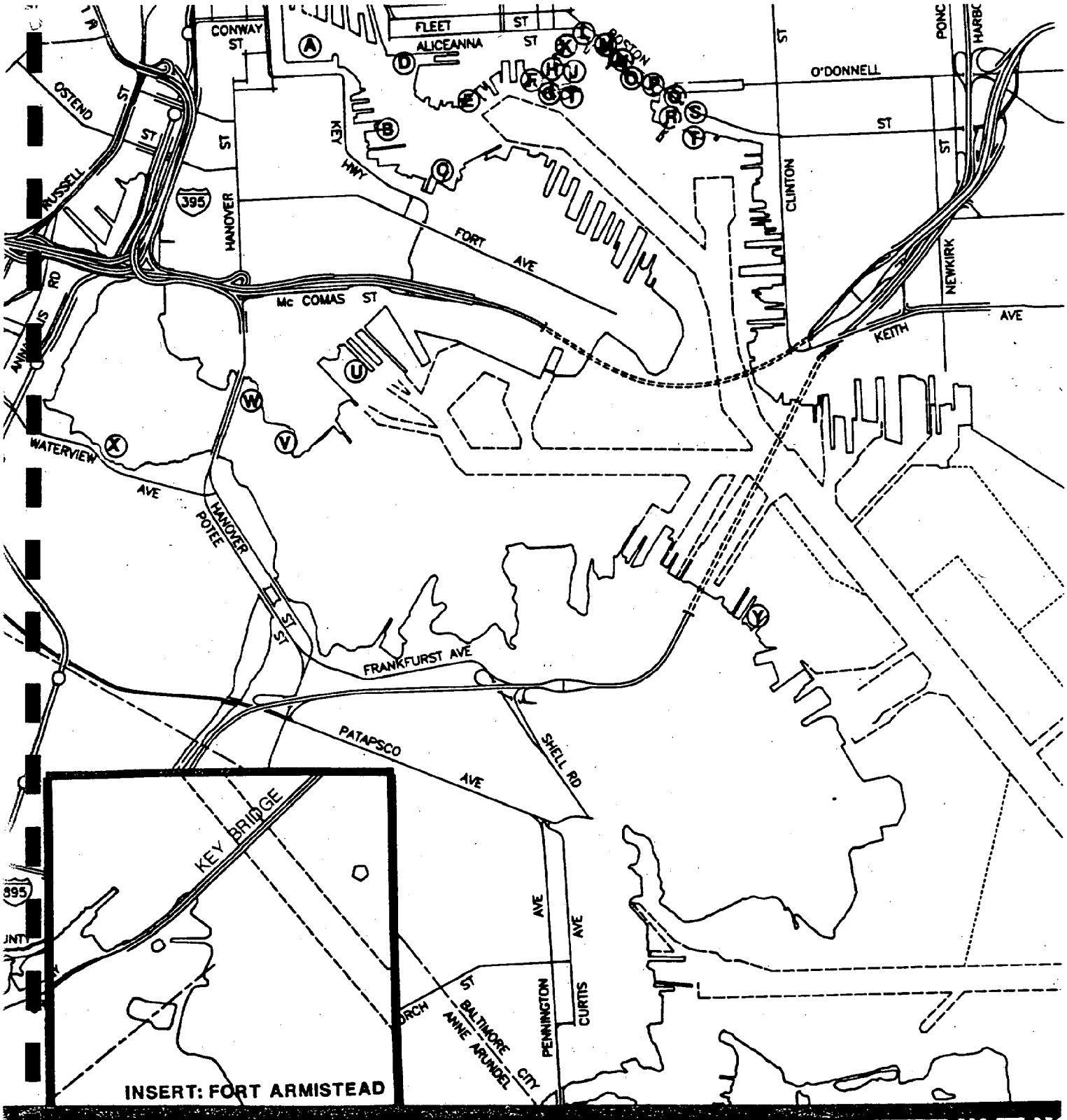
Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=3000'

FIGURE 1

WATER BODIES IN BALTIMORE

OCTOBER 19



MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

SCALE 1"=3000'

FIGURE 2

EXISTING AND PROPOSED MARINA SLIPS 1989 & BEYOND

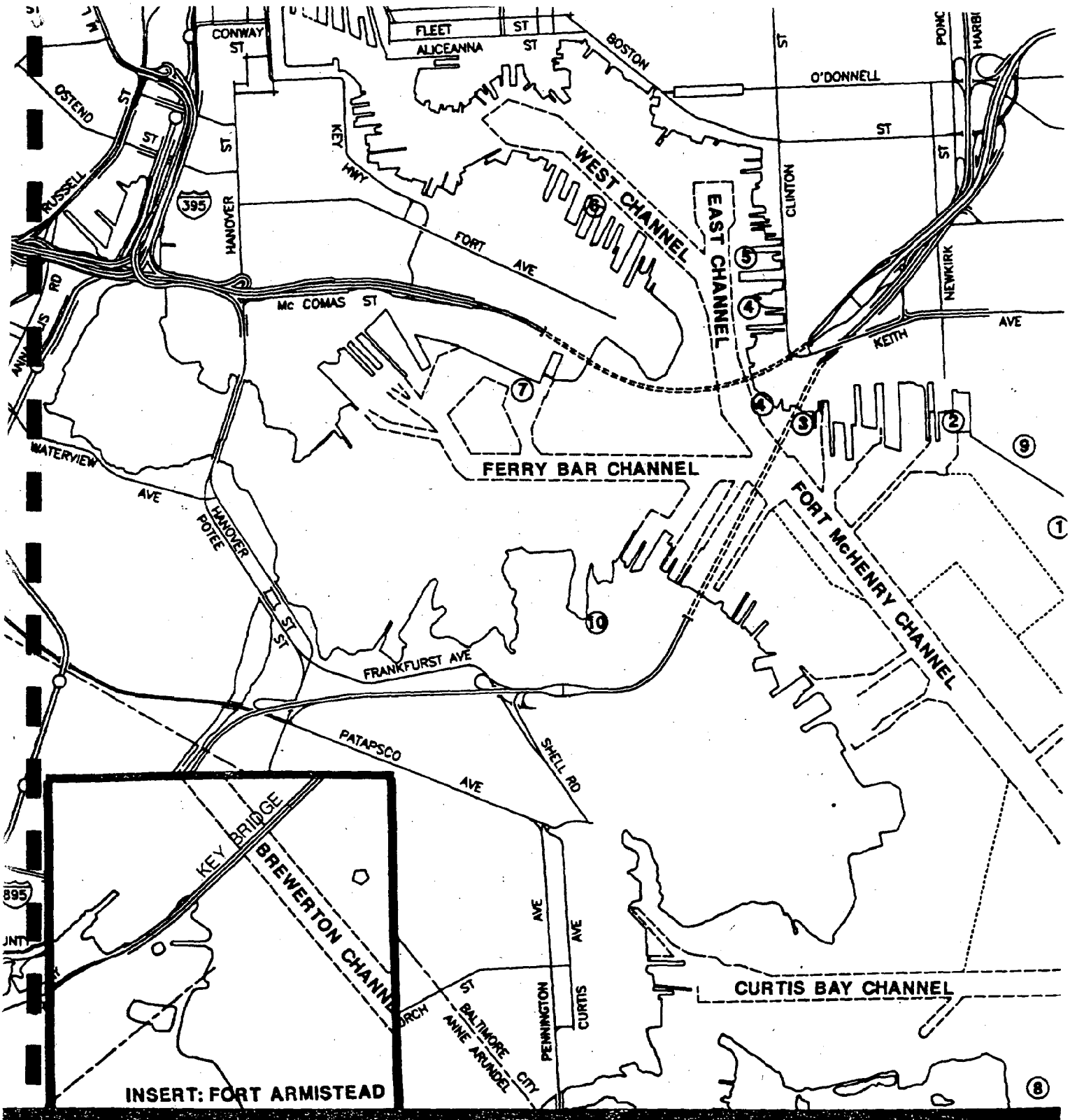
OCTOBER 19

EXISTING AND PROPOSED MARINA SLIPS 1989 AND BEYOND

	Sector/Marina	Existing October 1989	Additional Permitted	In Planning	Total
	INNER HARBOR/KEY HIGHWAY				
A	Inner Harbor*	384	-	-	384
B	Harborview	-	400	240	640
C	Tidewater (Key Highway Industrial)	44	-	-	44
D	Inner Harbor East & Maritime Academy	-	-	300	300
	Sub-Total	428	400	540	1,368
	FELLS POINT				
E	Constellation	-	-	150	150
F	Brown's Wharf	10	22	-	32
G	Harbor's Edge	6	-	-	6
H	Belts Wharf Landing	-	65	-	65
I	Henderson's Wharf	258	-	42	300
J	Swann's Wharf	26	26	-	52
K	Thames Point	53	-	-	53
L	Chester Cove	40	-	-	40
	Sub-Total	393	113	192	698
	CANTON				
M	Bayview	25	27	-	52
N	Anchorage at North Shore	-	58	-	58
O	Scarfield	-	69	-	69
P	Anchorage	489	87	-	576
Q	Shipyard	20	-	-	20
R	Baltimore International Yatching	83	383	78	544
S	Tindeco Wharf	20	-	-	20
T	Canton Cove	30	-	-	30
	Sub-Total	667	624	78	1,369
	MIDDLE BRANCH/SOUTH LOCUST POINT				
U	Port Covington	-	-	750	750
V	Ferry Bar	34	-	-	34
W	Baltimore Yacht Basin	197	-	-	197
X	Middle Branch Moorings	340	-	-	340
	Sub-Total	571	-	750	1,321
	FAIRFIELD				
Y	Port Liberty	-	-	800	800
	Sub-Total	-	-	800	800
	GRAND TOTAL	1,833	1,137	2,360	5,556

Prepared by - Department of Planning, Baltimore City, October, 1989

NOTE: Includes 226 berths for transient boaters at Municipal Wharf and Finger Piers.



MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=3000'

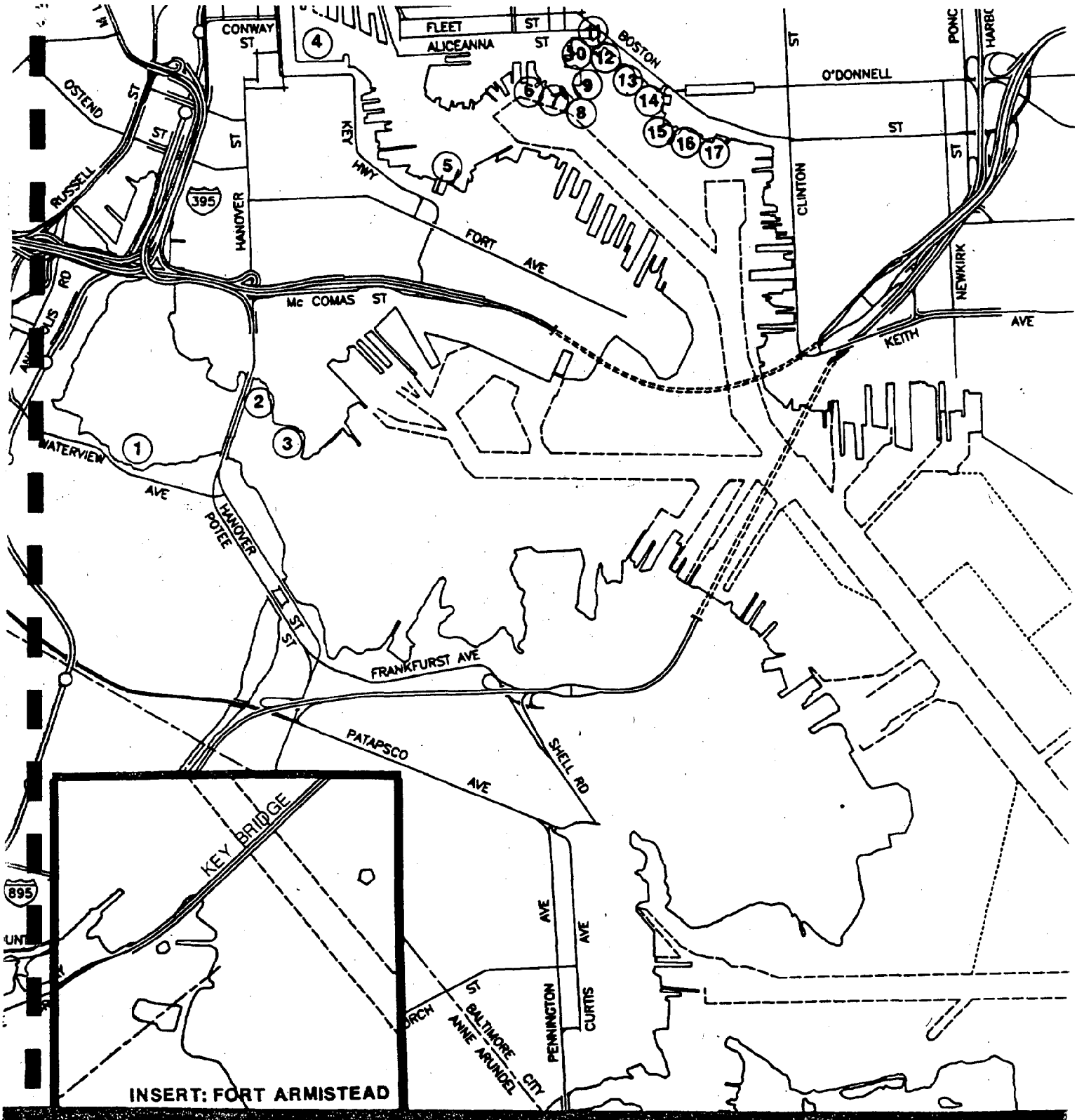
FIGURE 3

MAJOR MARINE TERMINALS, ANCHORAGES AND CHANNELS

OCTOBER 19

MAJOR MARINE TERMINALS - FIGURE 3

1 DUNDALK
2 SEA-LAND
3 CONSOLIDATION COAL
4 RUKERT
5 MPA-CLINTON STREET
6 NORTH LOCUST POINT
7 SOUTH LOCUST POINT
8 HAWKINS POINT
9 SEAGIRT
10 MASONVILLE (PROPOSED)



MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=3000'

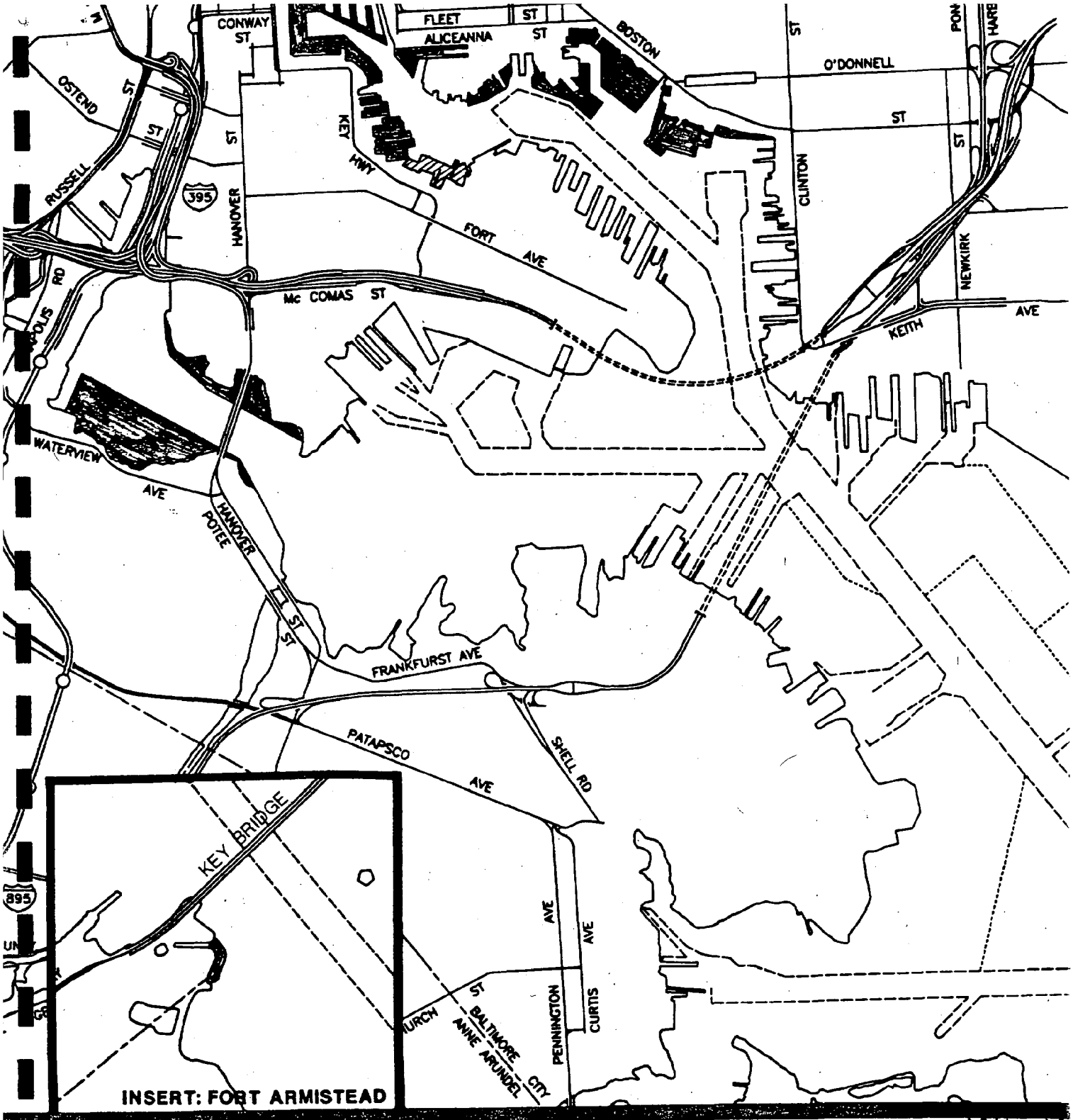
FIGURE 4

EXISTING MARINAS

OCTOBER 19

EXISTING MARINAS - FIGURE 4

1 MIDDLE BRANCH MOORINGS
2 BALTIMORE YACHT BASIN
3 FERRY BAR
4 INNER HARBOR/MUNICIPAL WHARF
5 TIDEWATER (INDUSTRIAL)
6 BROWN'S WHARF
7 HARBOR'S EDGE
8 HENDERSON'S WHARF
9 SWANN'S WHARF
10 THAMES POINT
11 CHESTER COVE
12 BAYVIEW
13 SHIPYARD
14 ANCHORAGE
15 BALTIMORE INTERNATIONAL YACHTING CENTER
16 TINDECO WHARF
17 CANTON COVE



MARINA MASTER PLAN AREA

INDUSTRIAL MARINA MASTER PLAN AREA

MARINA MASTER PLAN

BALTIMORE HARBOR

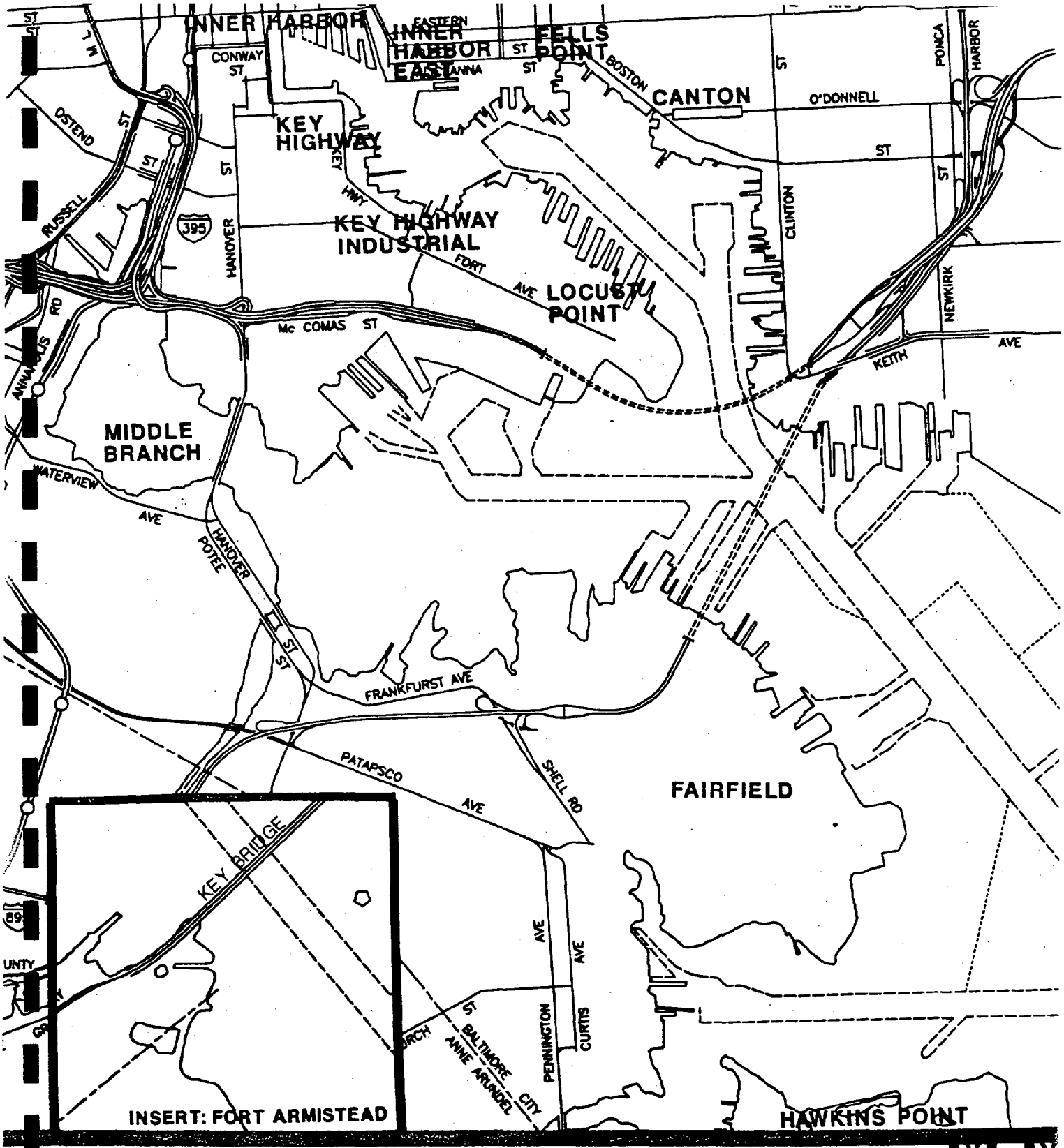
Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=3000'

FIGURE 5

EXISTING MARINA MASTER PLAN LINE

OCTOBER 19



MARINA MASTER PLAN

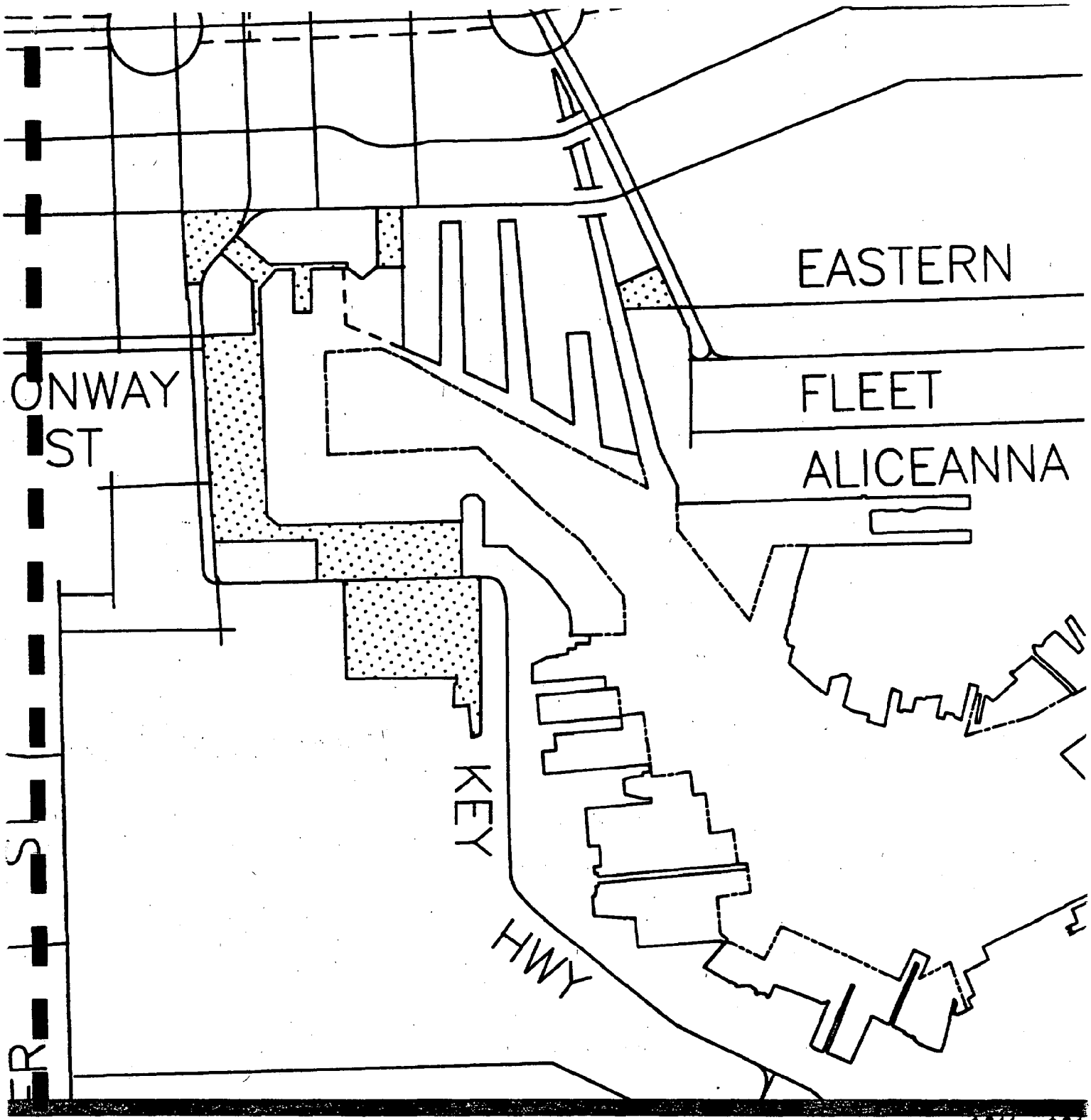
BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=3000'

FIGURE 6

PLANNING AREAS



—— RECREATIONAL MARINA
----- INDUSTRIAL MARINA

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

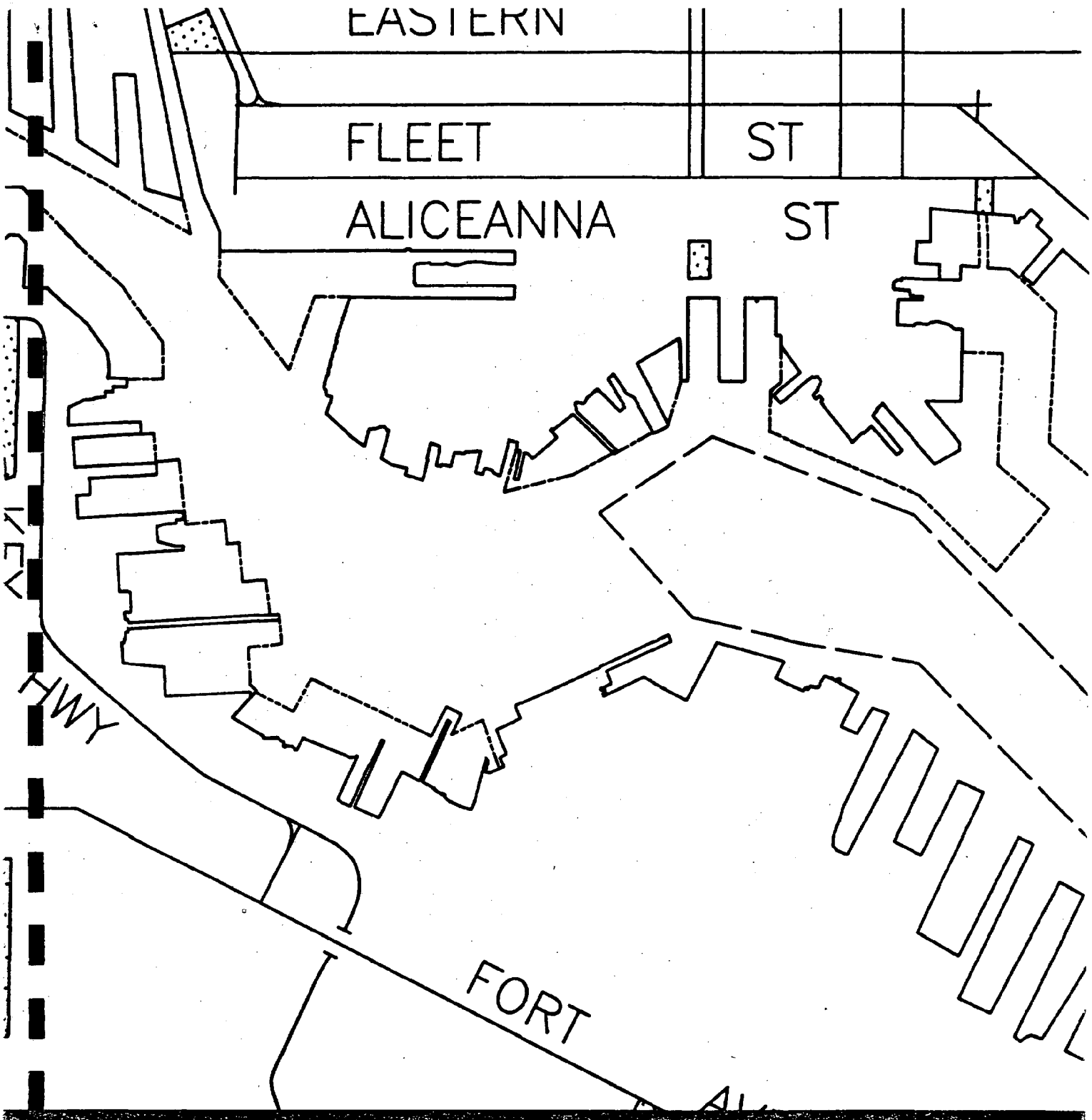
SCALE 1"=750'

FIGURE 7

EXISTING

INNER HARBOR BASIN AND ENTRANCE

OCTOBER 198



RECREATIONAL MARINA

INDUSTRIAL MARINA

MARINA MASTER PLAN

BALTIMORE HARBOR

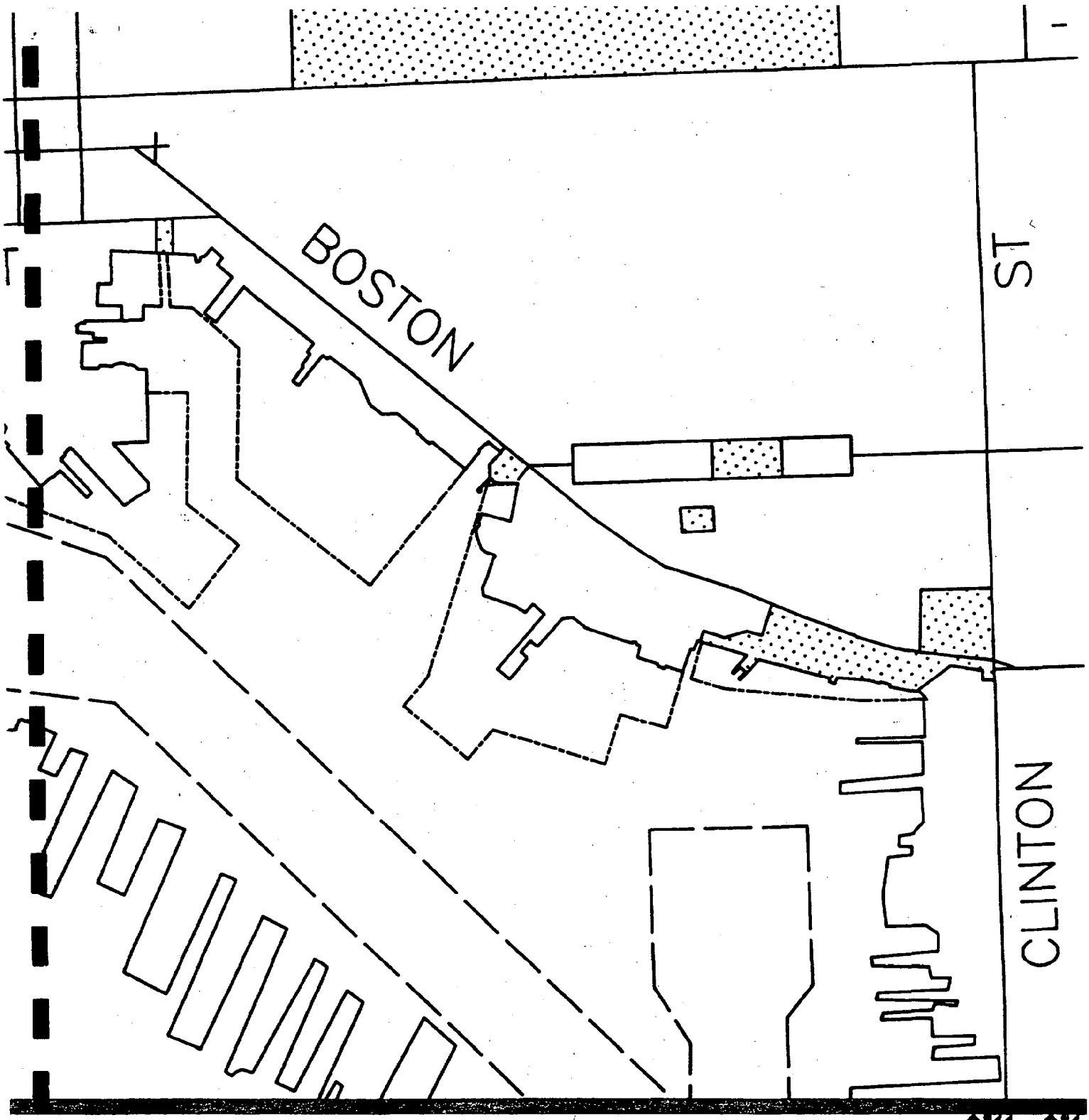
Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=750'

FIGURE 8

EXISTING
FILLS POINT

OCTOBER 198



RECREATIONAL MARINA

INDUSTRIAL MARINA

EXISTING

CANTON

MARINA MASTER PLAN

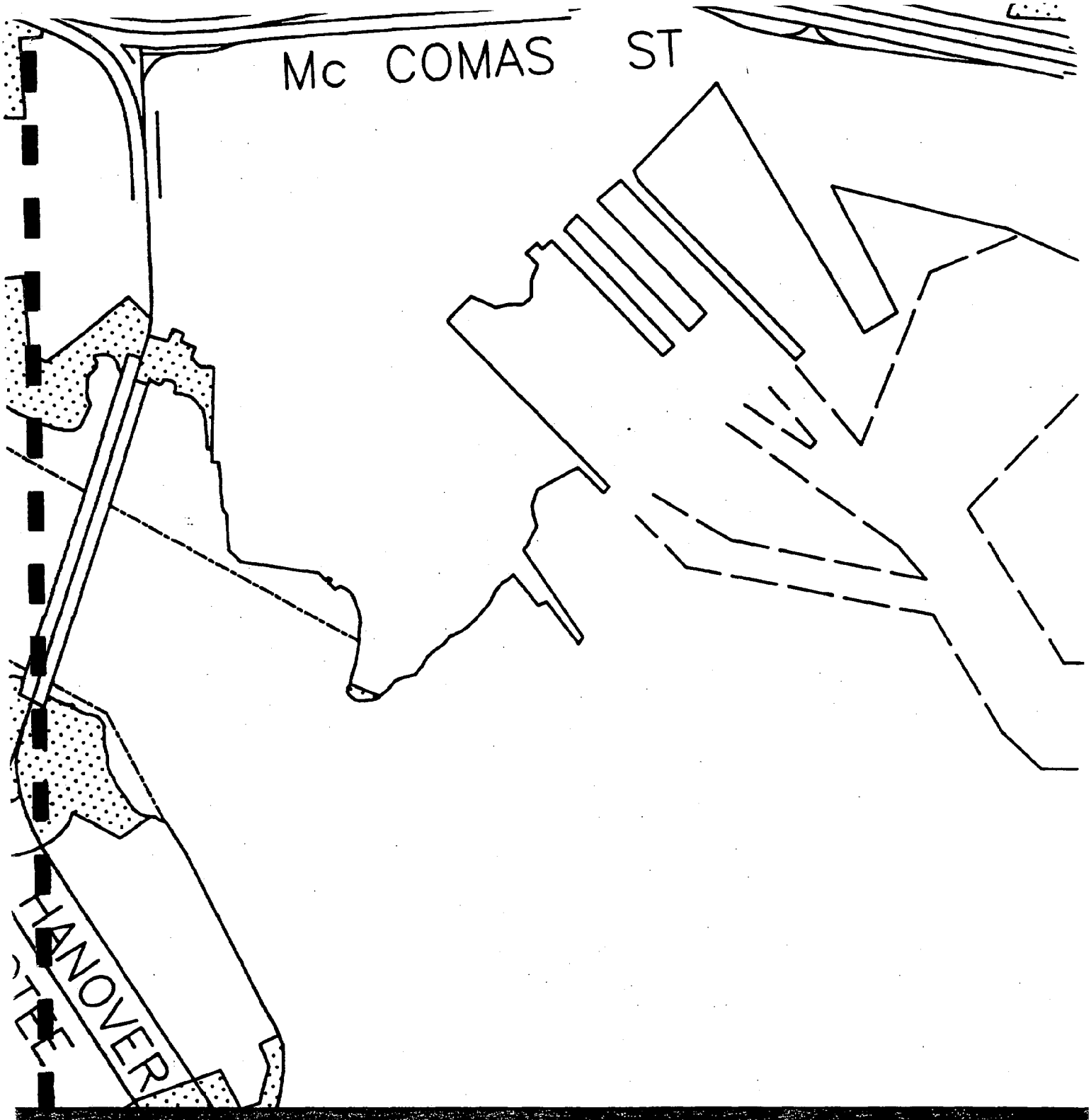
BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=750'

FIGURE 9

OCTOBER 1981



RECREATIONAL MARINA

INDUSTRIAL MARINA

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

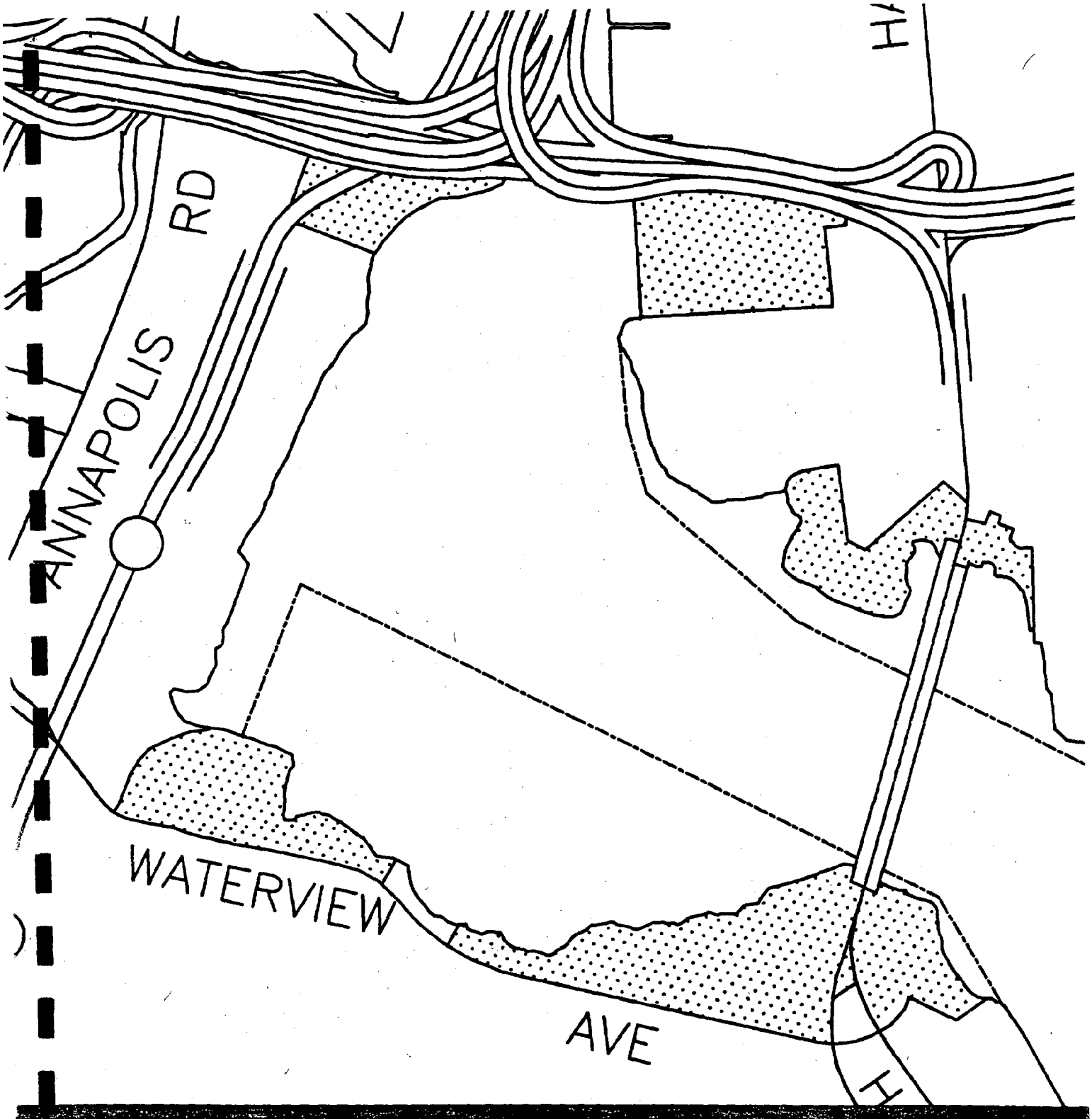
SCALE 1"=750'

FIGURE 10

EXISTING

SOUTH LOCUST POINT

OCTOBER 1989



---- RECREATIONAL MARINA
---- INDUSTRIAL MARINA

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

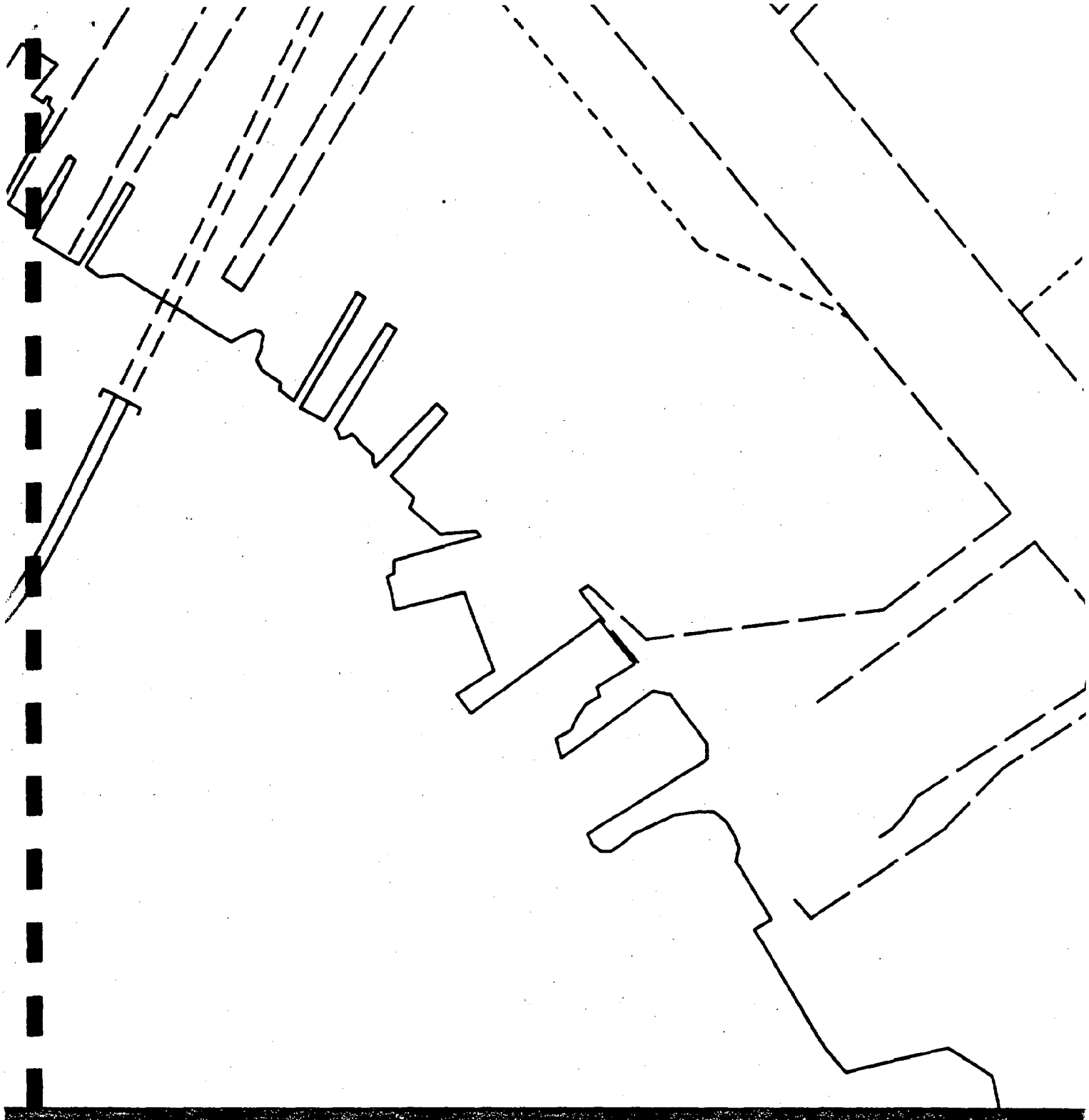
PEOPLE MAKE IT HAPPEN

SCALE 1"=750'

FIGURE 11

EXISTING
MIDDLE BRANCH

OCTOBER 198



MARINA MASTER PLAN

BALTIMORE HARBOR

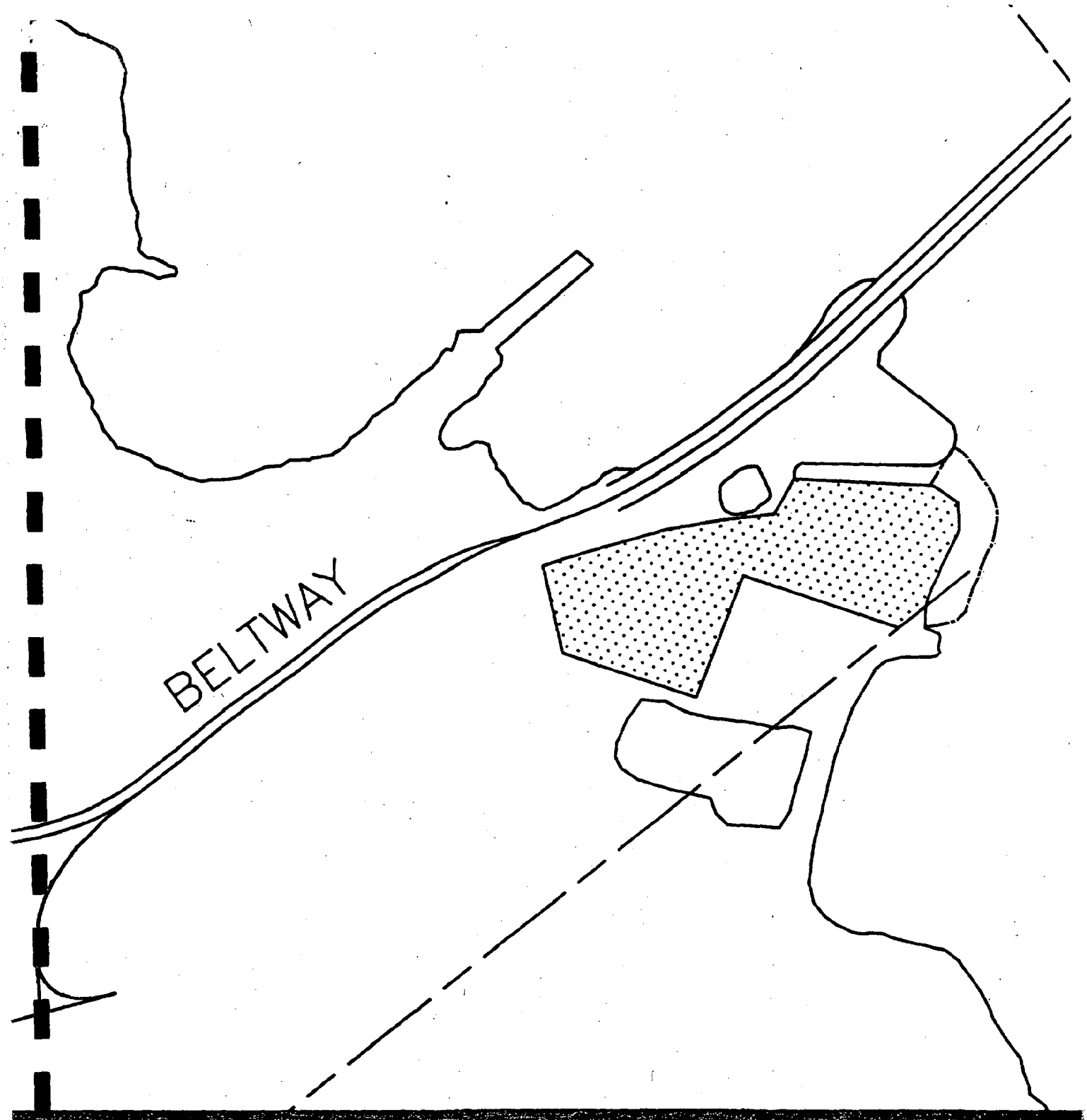
Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=750'

FIGURE 12

EXISTING
FAIRFIELD

OCTOBER 198



—— RECREATIONAL MARINA
- - - - INDUSTRIAL MARINA

EXISTING
HAWKINS POINT

MARINA MASTER PLAN

BALTIMORE HARBOR

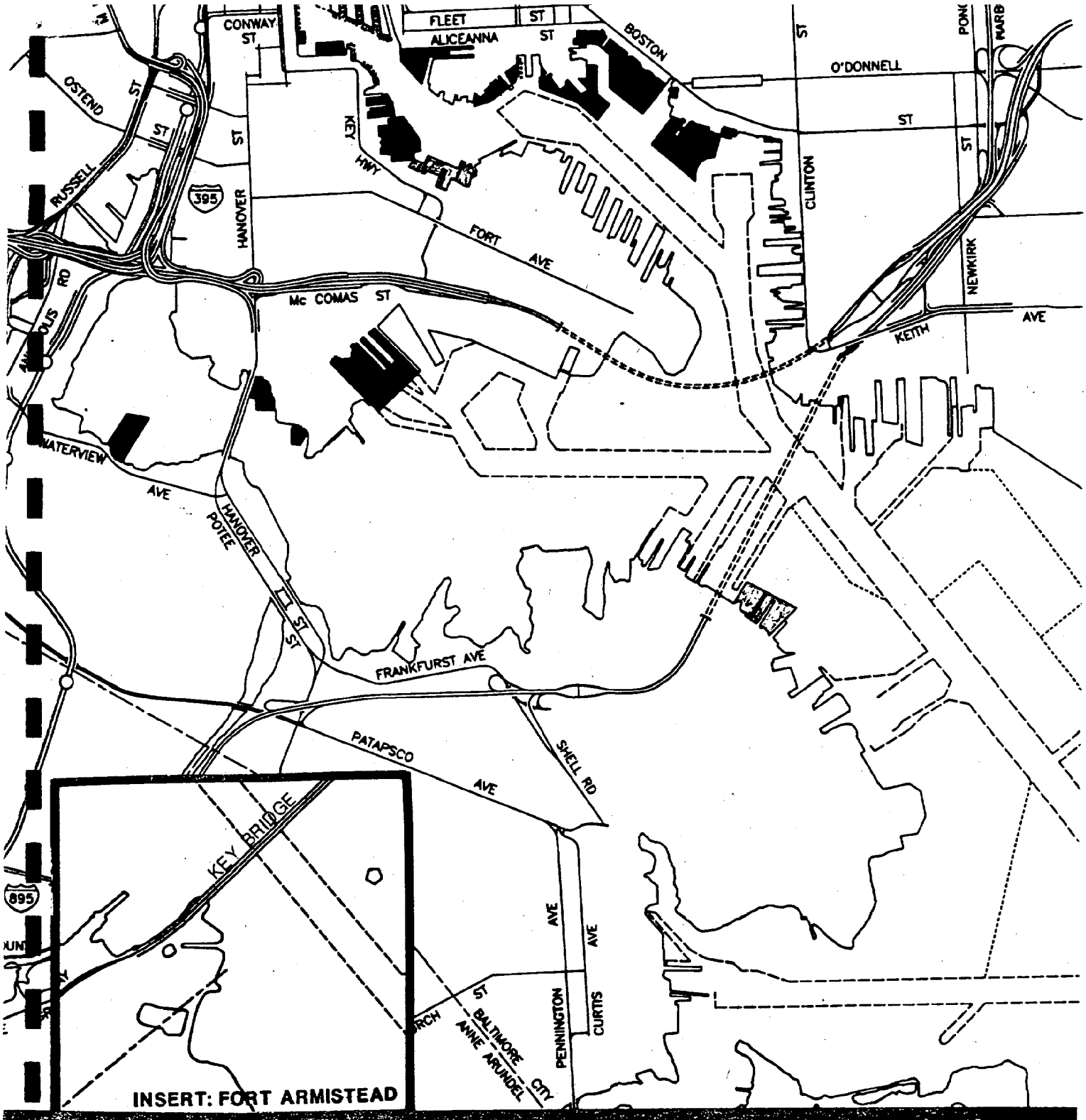
Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

SCALE 1"=750'

FIGURE 13

OCTOBER 198



MARINA MASTER PLAN AREA

INDUSTRIAL MARINA AREAS

..... BOAT TIE-UPS

MARINA MASTER PLAN

BALTIMORE HARBOR

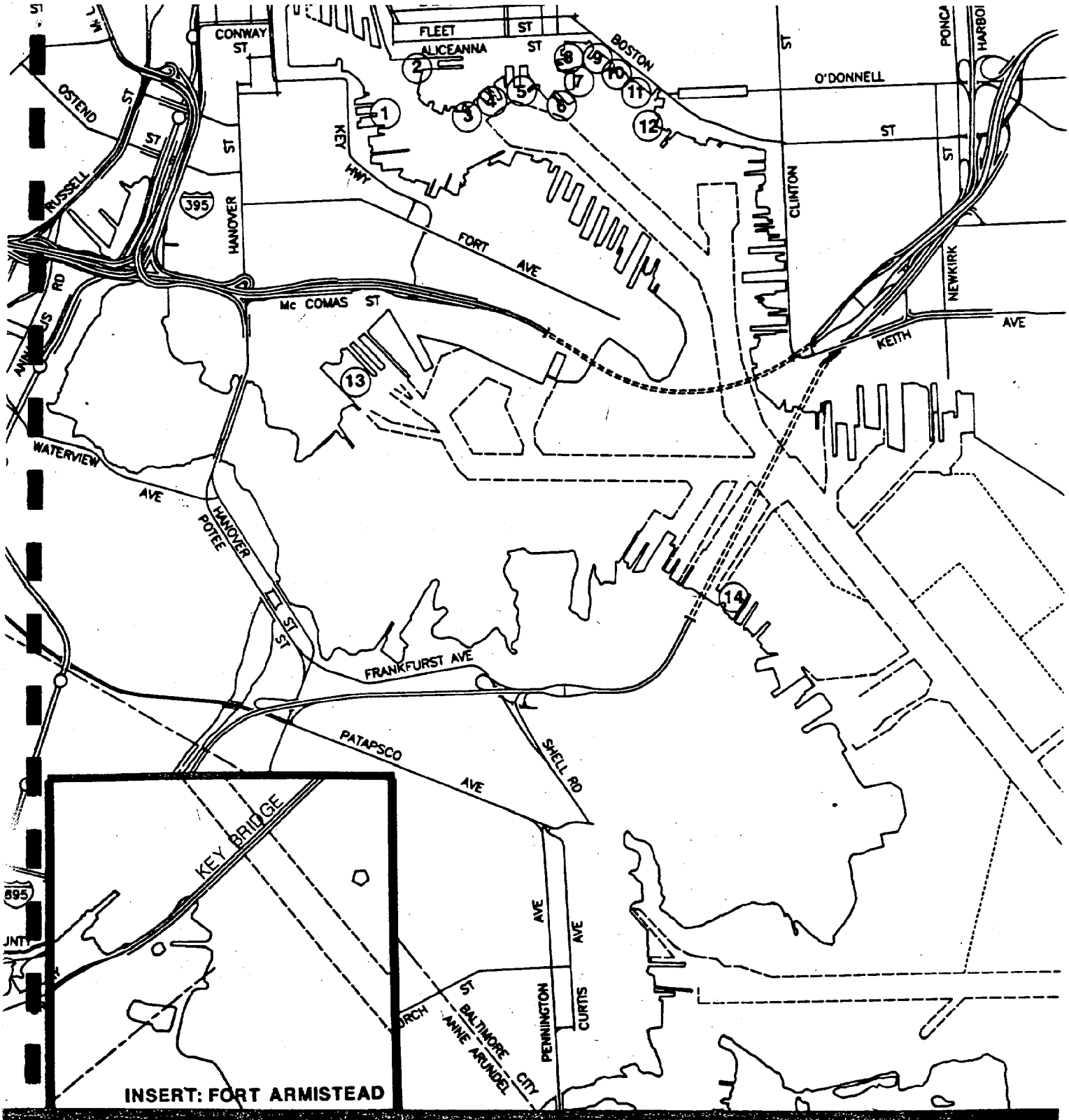
Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=3000'

FIGURE 14

PROPOSED MARINA MASTER PLAN LINE

OCTOBER 198



MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

SCALE 1"=3000'

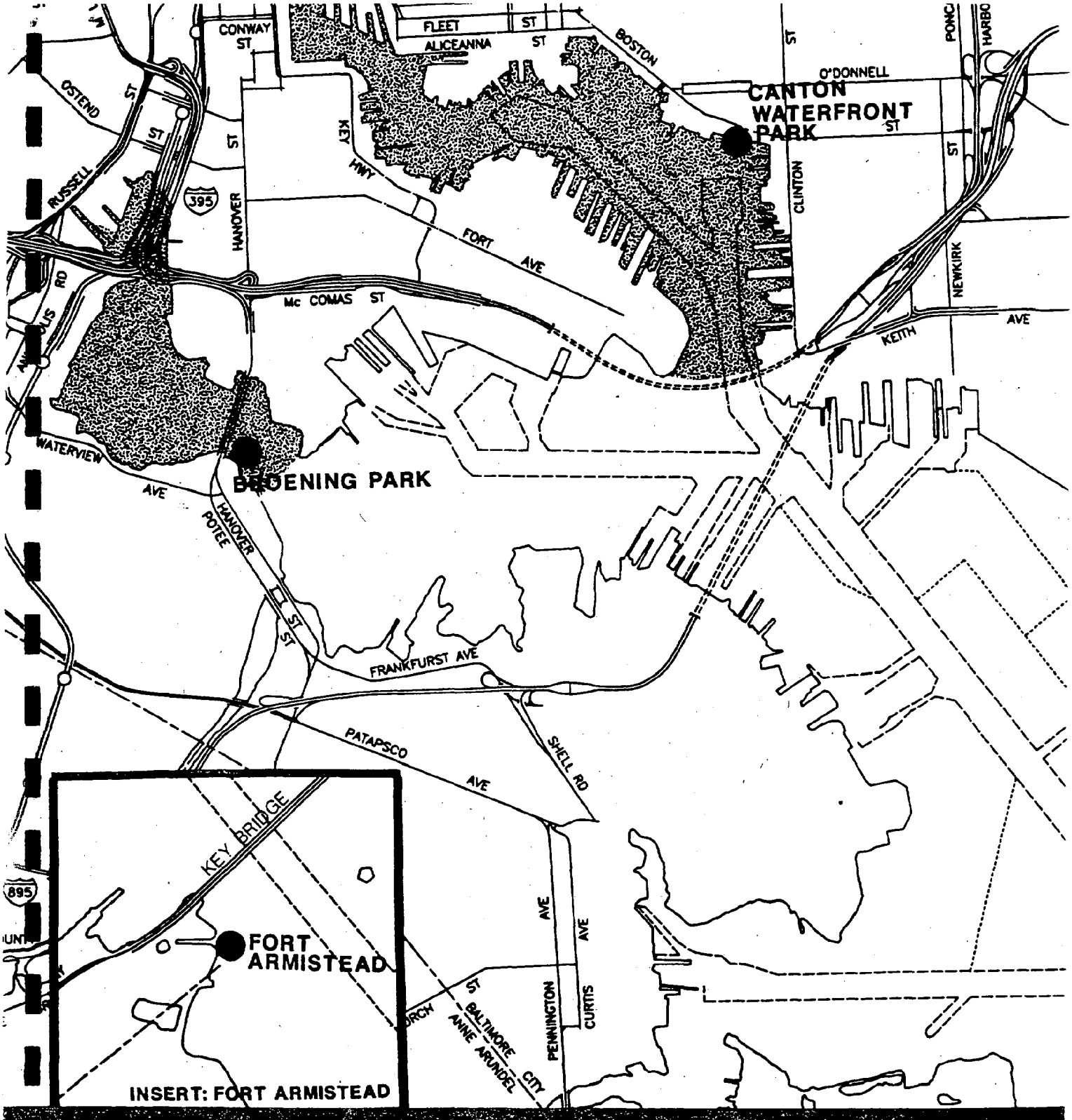
FIGURE 15

PROPOSED MARINA EXPANSION

OCTOBER 19

PROPOSED NEW/EXPANDED MARINAS - FIGURE 15

1 HARBORVIEW
2 INNER HARBOR EAST AND MARITIME ACADEMY
3 CONSTELLATION
4 BROWN'S WHARF
5 BELT'S WHARF LANDING
6 HENDERSON'S WHARF
7 SWANN'S WHARF
8 BAYVIEW
9 ANCHORAGE AT NORTH SHORE
10 SCARFIELD
11 ANCHORAGE
12 BALTIMORE INTERNATIONAL YACHTING CENTER
13 PORT COVINGTON
14 PORT LIBERTY (INDUSTRIAL)



SPEED LIMIT ZONE

6 KNOT LIMIT

BOAT LAUNCHES

MARINA MASTER PLAN

BALTIMORE HARBOR

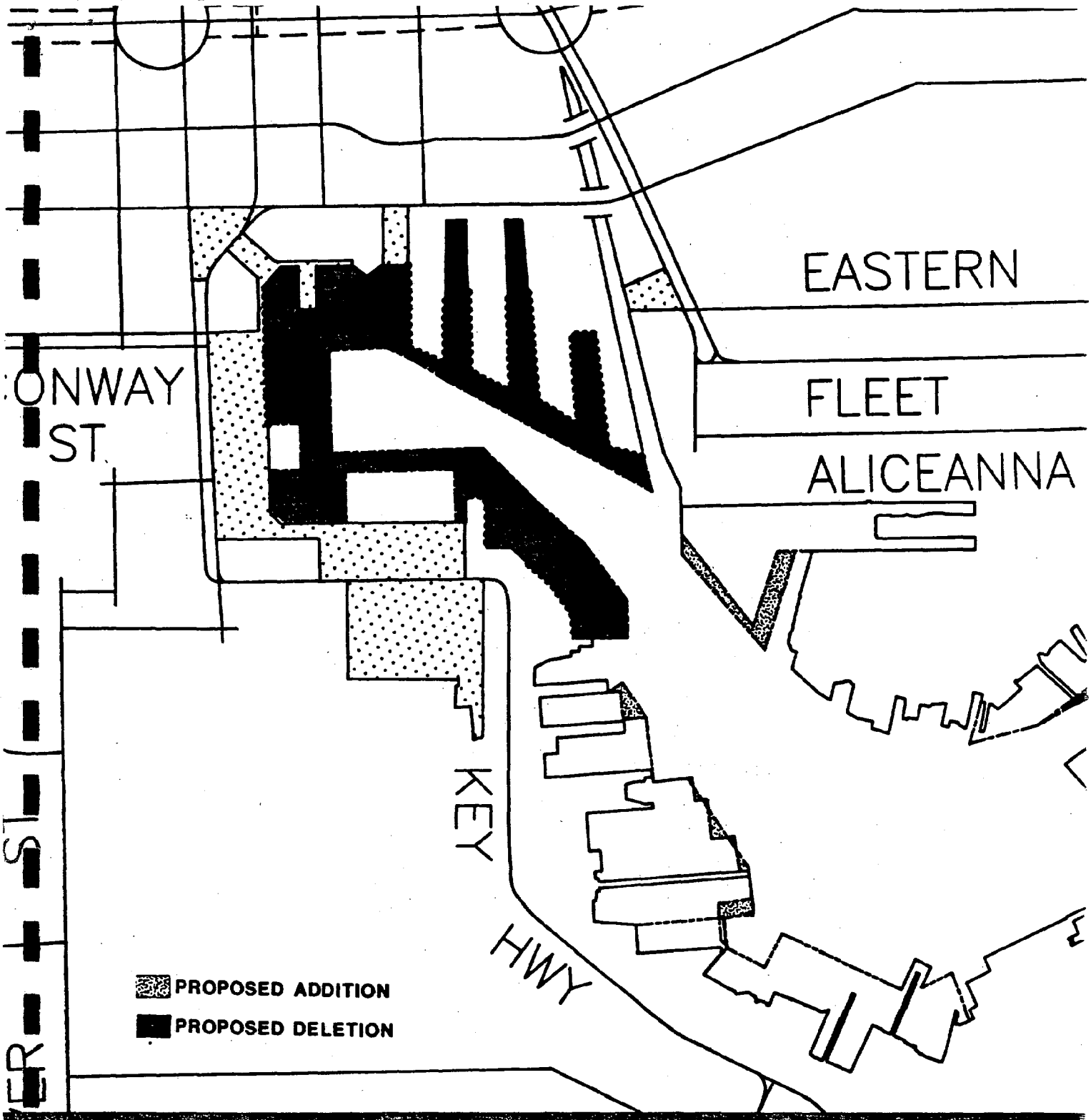
Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=3000'

FIGURE 16

BOAT LAUNCHES AND SPEED LIMIT

OCTOBER 19



RECREATIONAL MARINA

INDUSTRIAL MARINA

BOAT TIE-UP

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

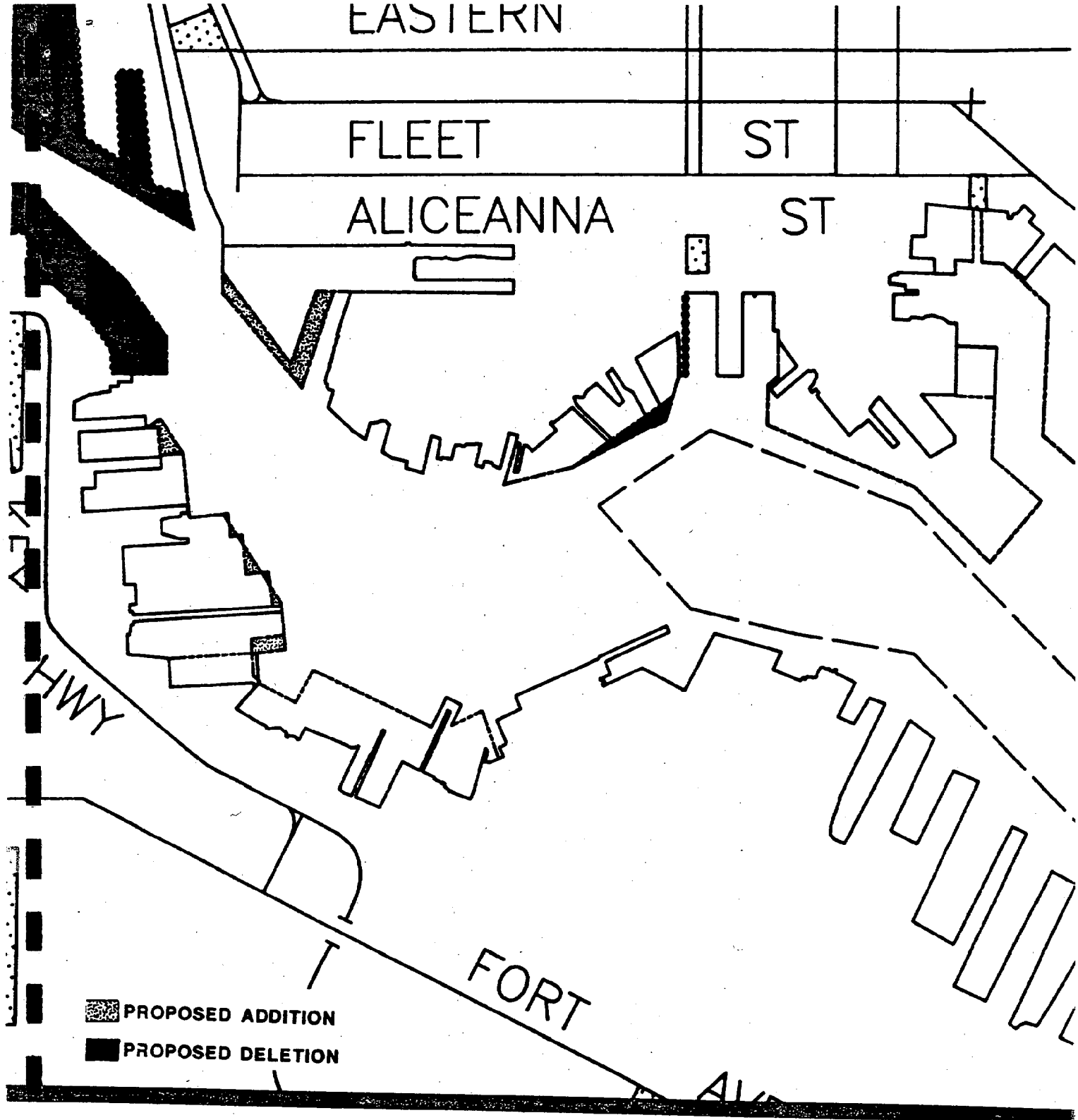
SCALE 1"=750'

FIGURE 17

PROPOSED

INNER HARBOR BASIN AND ENTRANCE

OCTOBER 198



RECREATIONAL MARINA

INDUSTRIAL MARINA

BOAT TIE-UP

PROPOSED
FELLS POINT

MARINA MASTER PLAN

BALTIMORE HARBOR

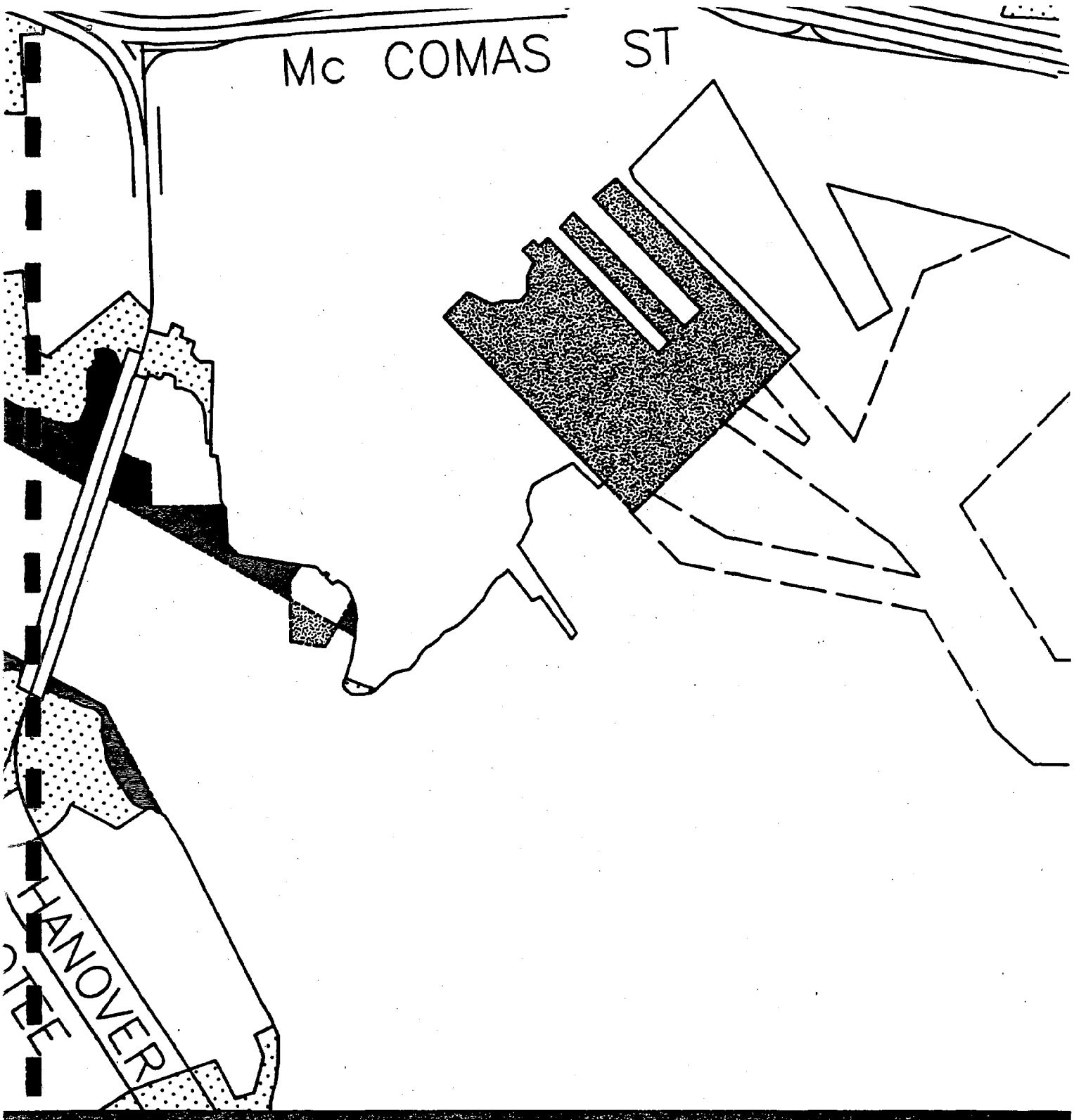
Baltimore City Department of Planning Baltimore, Maryland

SCALE 1"=750'

FIGURE 18

PEOPLE MAKE IT HAPPEN

OCTOBER 1985



---- RECREATIONAL MARINA

---- INDUSTRIAL MARINA

BOAT TIE-UP

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

SCALE 1"=750'

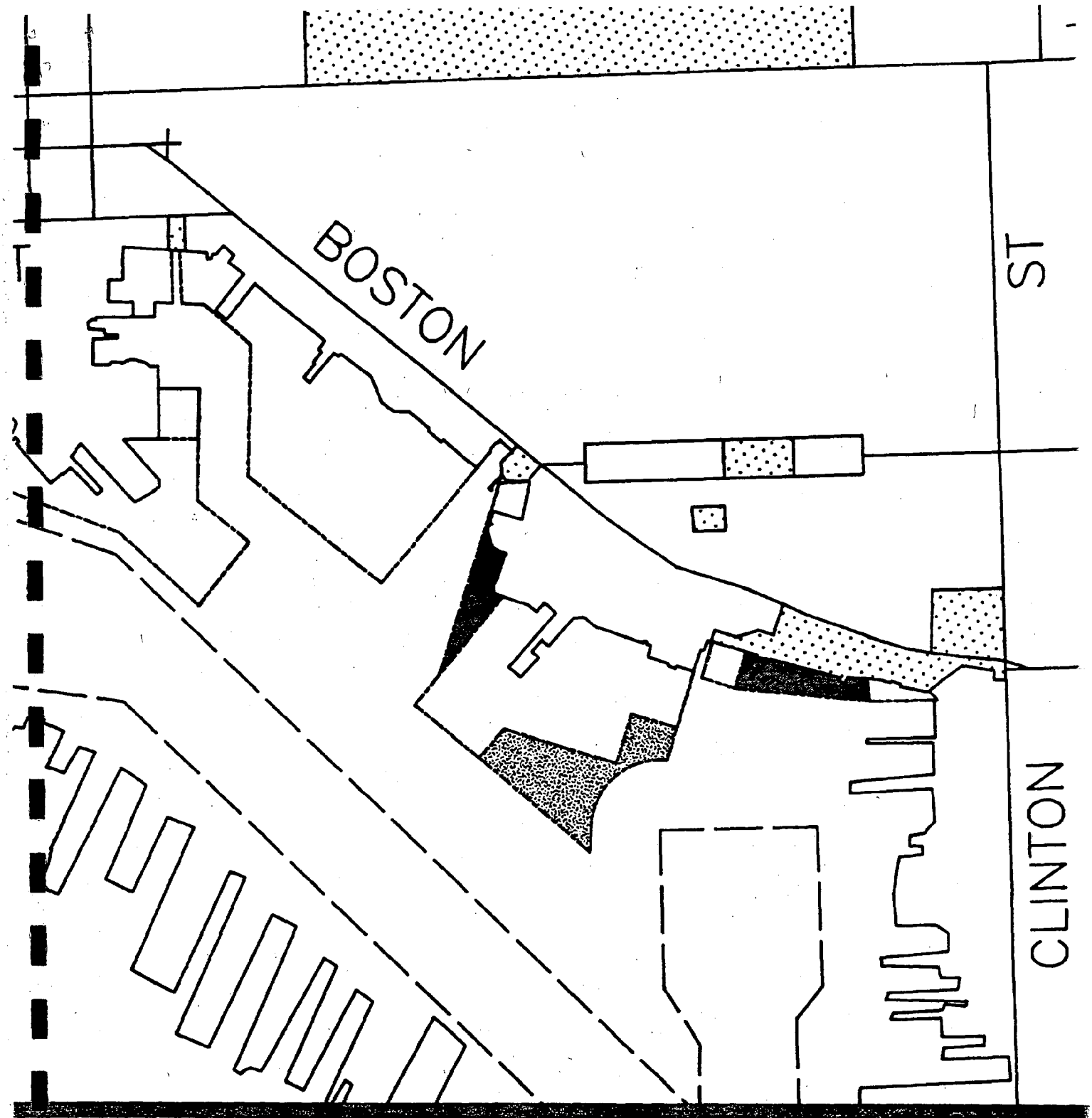
FIGURE 20

ROPOSED
SOUTH LOCUST POINT

PROPOSED ADDITION

PROPOSED DELETION

OCTOBER 198



RECREATIONAL MARINA

INDUSTRIAL MARINA

BOAT TIE-UP

PROPOSED
CANTON

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

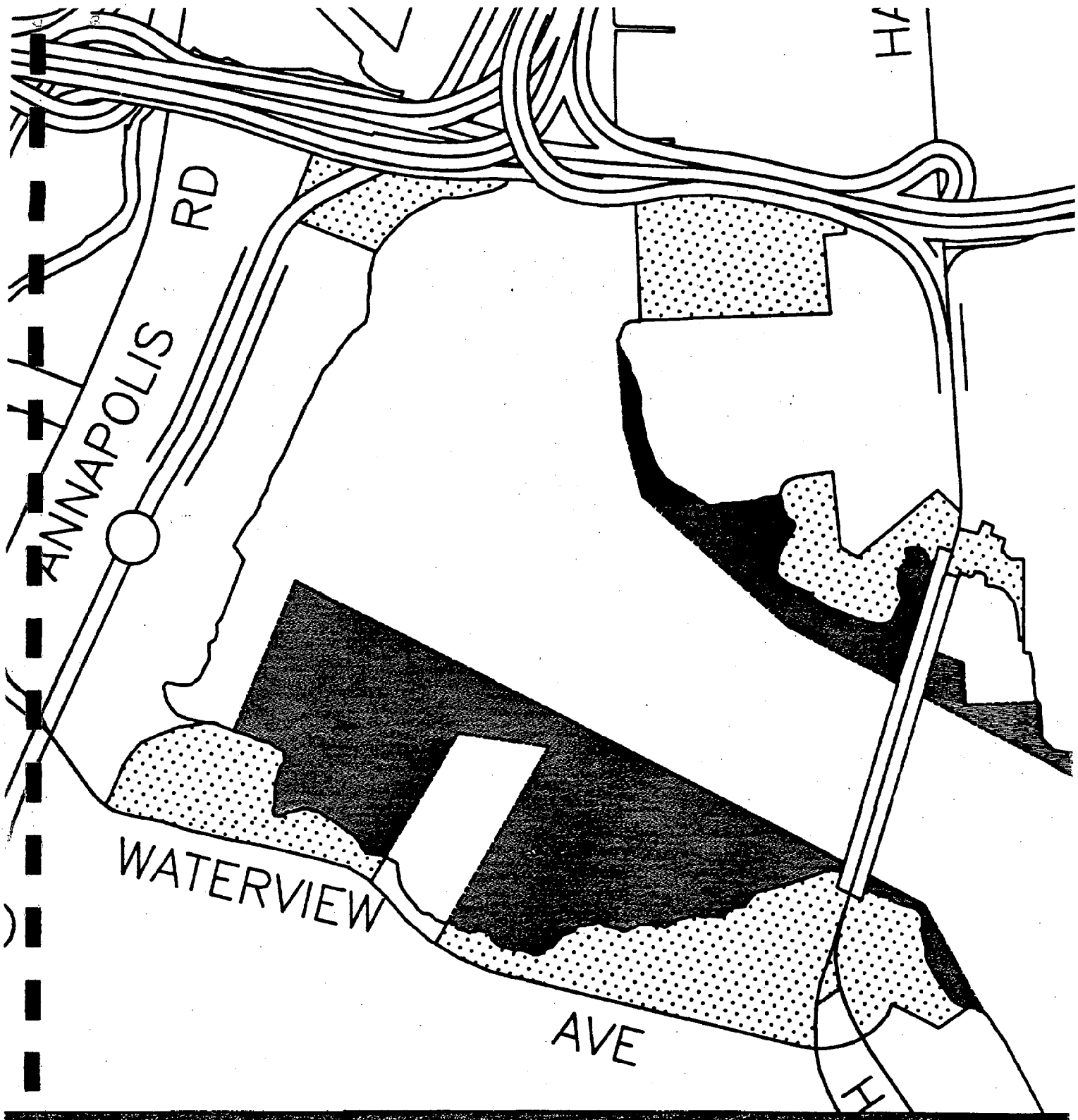
SCALE 1"=750'

FIGURE 19

PROPOSED ADDITION

PROPOSED DELETION

OCTOBER 198



—— RECREATIONAL MARINA

------ INDUSTRIAL MARINA

●●●●● BOAT TIE-UP

ROPOSED
MIDDLE BRANCH

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

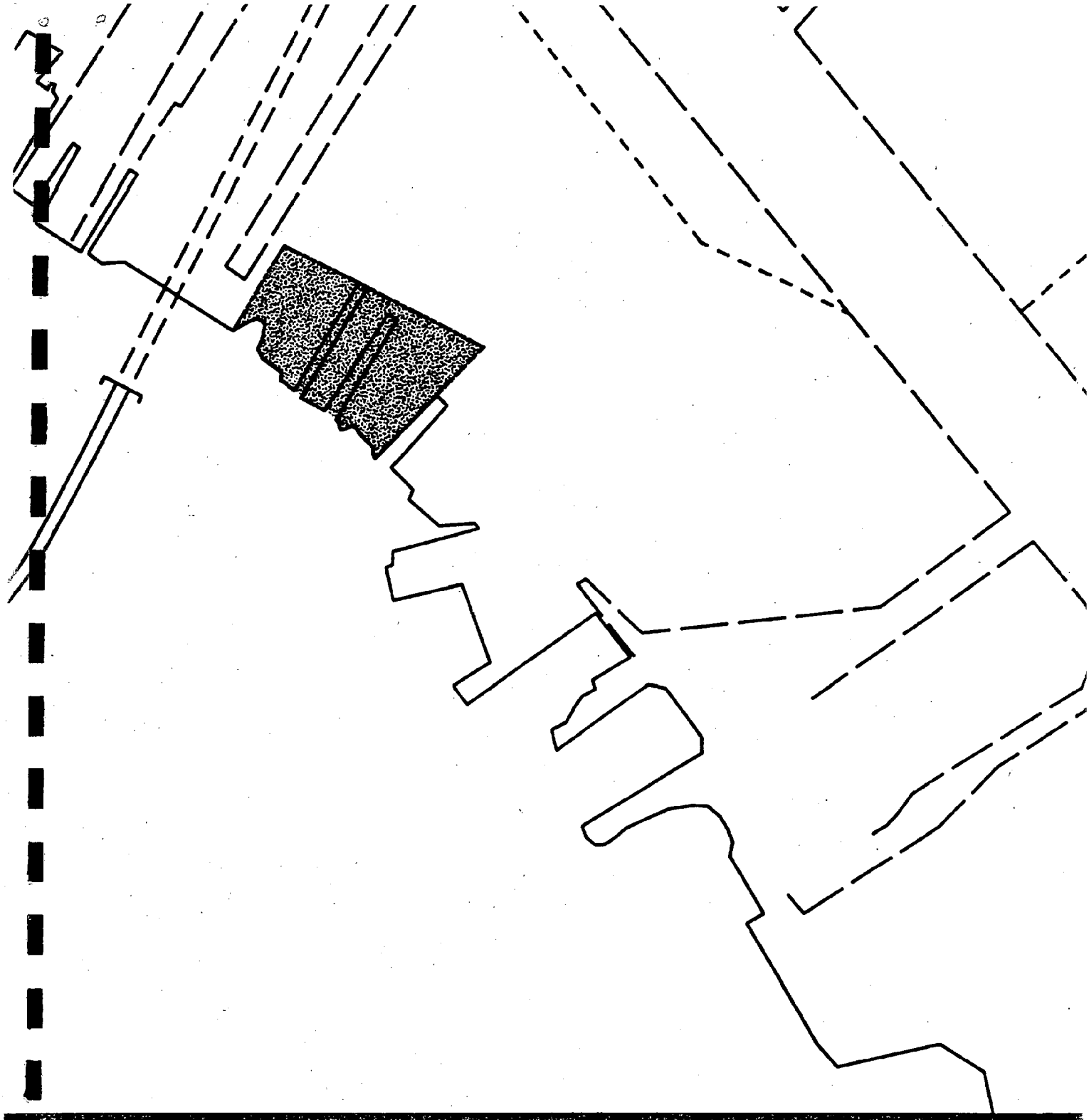
SCALE 1"=750'

FIGURE 21

PROPOSED ADDITION

PROPOSED DELETION

OCTOBER 198



— — RECREATIONAL MARINA

— — — INDUSTRIAL MARINA

•••••• BOAT TIE-UP

PROPOSED
FAIRFIELD

MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

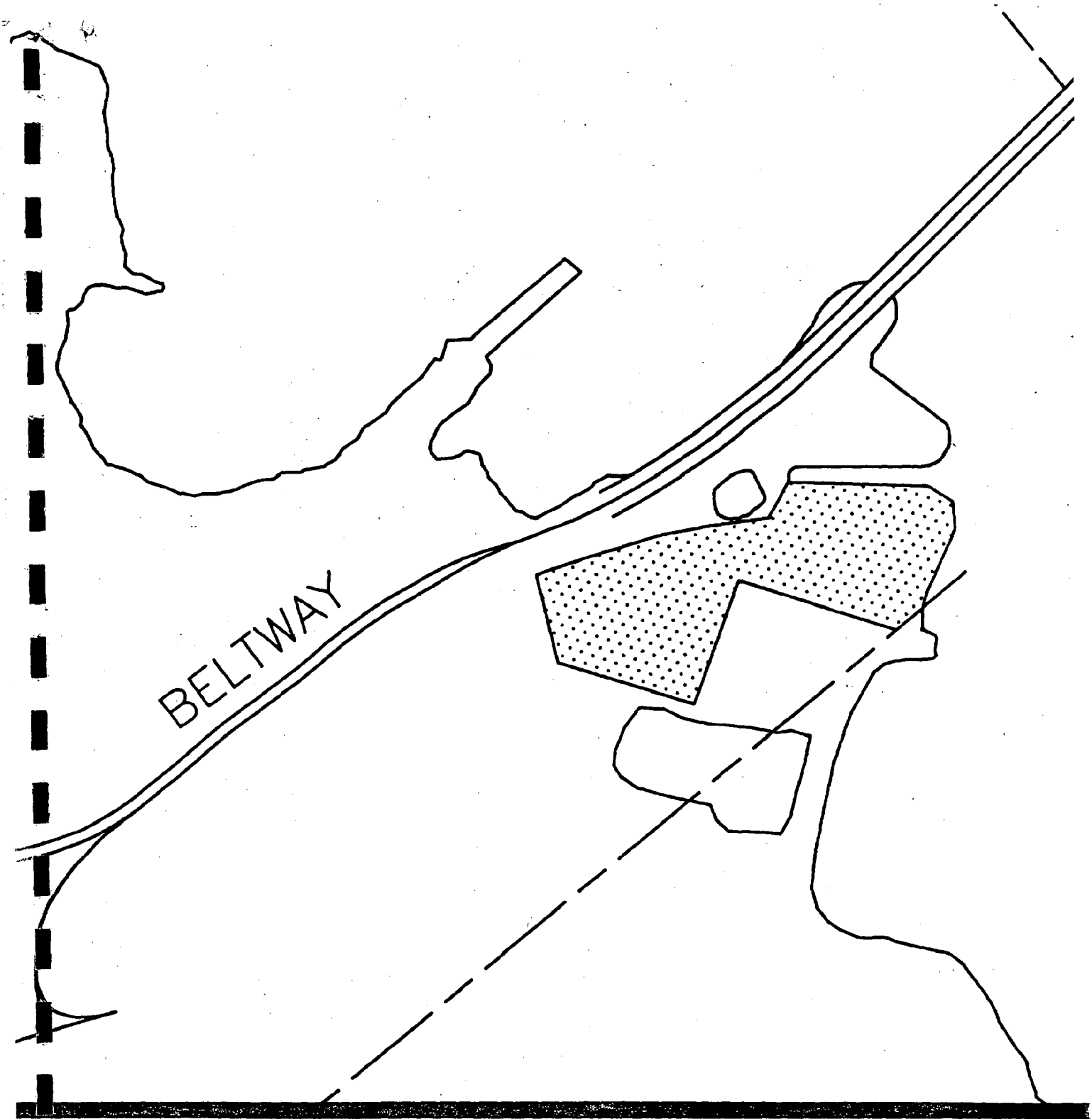
SCALE 1"=750'

FIGURE 22

PROPOSED ADDITION

PROPOSED DELETION

OCTOBER 198



MARINA MASTER PLAN

BALTIMORE HARBOR

Baltimore City Department of Planning Baltimore, Maryland

PEOPLE MAKE IT HAPPEN

SCALE 1"=750'

FIGURE 23

PROPOSED
HAWKINS POINT

OCTOBER 1981